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ABSTRACT

This annotated bibliography is an effort to provide educators and researchers with a comprehensive listing of current resources, information, and research concerning peer and cross age academic tutoring by students, together with a selection of references on related topics of cross age interactions, tutoring in general, and the use of paraprofessionals in educational and therapeutic situations. The references cited were selected from a search of educational and psychological literature from 1960 to 1973 and are categorized according to the nature of the activities discussed and the nature of the individuals involved. Included are descriptions of both informal tutoring programs in individual classrooms around the country and organized, systematic programs developed and formally evaluated by educators. The bibliography contains a number of controlled experiments and doctoral theses investigating the effectiveness of tutoring by children and adults and the significance of factors such as race, age, and sex differences in tutoring combinations. Also listed are several tutoring "packages" published commercially and available for purchase by school systems. A number of items cited in this bibliography are unpublished materials listed in the Educational Resources Information Center (ERIC). The ERIC file numbers for these documents are included in the citations. Also cited are doctoral dissertations which are available through University Microfilms along with their listings in "Dissertation Abstracts International." (Author/BD)

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Theoretical Paper No. 53

PEER AND CROSS-AGE TUTORING AND RELATED TOPICS: AN ANNOTATED BIBLIOGRAPHY

by Roberta Wilkes

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Vernon L. Allen
Principal Investigator

Report from the Project on Conditions of School Learning and Instructional Strategies

SP009 617

Wisconsin Research and Development
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WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR COGNITIVE LEARNING

MISSION

The mission of the Wisconsin Research and Development Center for Cognitive Learning is to help learners develop as rapidly and effectively as possible their potential as human beings and as contributing members of society. The R&D Center is striving to fulfill this goal by

- conducting research to discover more about how children learn
- developing improved instructional strategies, processes and materials for school administrators, teachers, and children, and
- offering assistance to educators and citizens which will help transfer the outcomes of research and development into practice

PROGRAM

The activities of the Wisconsin R&D Center are organized around one unifying theme, Individually Guided Education.

FUNDING

The Wisconsin R&D Center is supported with funds from the National Institute of Education; the Bureau of Education for the Handicapped, U.S. Office of Education; and the University of Wisconsin.

PREFACE

The helping relationship has been the basis of many approaches to educational, health, and social improvement in recent years. Colleges, public schools, government social programs, and correctional and psychiatric institutions are increasingly using peer resources in a variety of settings. In education, this movement is manifested in the growing use of peer tutoring (students teaching other students of the same age or grade); cross-age tutoring (older students teaching younger ones); and "team" learning (students paired for mutual help). But these techniques are innovative only within the context of our modern age-graded schools. The phenomenon of students teaching other students has been an established practice in European and American educational traditions for centuries. In the early seventeenth century, the Moravian educator John Comenius observed in his book The Great Didactic, "The saying, 'He who teaches others, teaches himself,' is very true, not only because constant repetition impresses a fact indelibly on the mind, but because the process of teaching in itself gives a deeper insight into the subject taught." In the early eighteenth century, Joseph Lancaster, inspired by the Hindu system of mutual instruction in India, established the Monitorial System in Great Britain in which entire schools were taught by students. This was primarily an economic expediency to make education possible for the children of the poor and was eventually replaced by universal public education by professional teachers, but the use of students as teachers of their peers continued elsewhere--notably in the rural American one-room schoolhouse.

As the modern, flexible classroom geared to the individual student evolved, the one-to-one cross-age and peer tutoring relationship was re-examined and adapted to support efforts to individualize instruction in an environment that became increasingly cooperative and heterogeneous rather than competitive and homogeneous. Only recently, however, have educators and researchers sought to investigate in a systematic way the nature and effects of peer and cross-age interactions and, specifically, the benefits of tutoring for both the tutor and the tutee.

Two components of the Wisconsin Research and Development (R&D) Center for Cognitive Learning have been concerned with various aspects of peer teaching in recent years. Professor Vernon L. Allen has conducted a number of studies of tutoring among children; these studies have given particular attention to the impact of tutoring on the tutor. He is currently editing a book, Inter-Age Interaction in Children: Theory and Research in the Helping Relationship, based upon a conference held at the Wisconsin R&D Center in August, 1973, and he is investigating peer teaching in a sample of one-teacher schools in Nebraska. In addition, a cross-age tutoring program is one of the basic elements of the System of Individually Guided Motivation developed by Professor Herbert Klausmeier at the Wisconsin R&D Center.

This bibliography is an effort to provide educators and researchers with a comprehensive listing of current resources, information, and research concerning peer and cross-age academic tutoring by students, together with a selection of references on related topics of cross-age

interactions, tutoring in general, and the use of paraprofessionals in educational and therapeutic situations. The references cited were selected from a search of educational and psychological literature from 1960 to 1973 and are categorized according to the nature of the activities discussed and the nature of the individuals involved. Included are descriptions of informal tutoring programs in individual classrooms around the country, as well as of organized, systematic programs developed and formally evaluated by educators. The bibliography contains a number of controlled experiments and doctoral theses investigating the effectiveness of tutoring by children and adults and the significance of such factors as race, age, and sex differences in tutoring combinations. Listed also are several tutoring "packages" published commercially and available for purchase by school systems.

Results of many empirical studies of tutoring have been inconclusive and are often quite contradictory. The annotations accompanying the citations here do not include any criticisms of the research methods or validity of the results. The value of these research efforts vary widely, and any conclusions presented must be considered in the context of the conditions of each study.[1] Most of the literature on tutoring consists of informal studies, anecdotal reports, and descriptions of programs by teachers and administrators. It was felt that despite the frequent lack of replicable results and formal evaluation, these accounts present many valuable ideas, opinions, and guidelines for the individual interested in implementing his own tutoring program.

A number of items cited in this bibliography are unpublished materials listed in the Educational Resources Information Center (ERIC) and available in microfilm form in many libraries. The ERIC file numbers for these documents are included in the citations. Doctoral dissertations are available in microfilm and photocopy form through University Microfilms, Ann Arbor, Michigan; this bibliography includes their listings in Dissertation Abstracts International, which provides an abstract and purchasing information for each thesis.

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[1] For a critical review of the research in peer and cross-age tutoring, see R. S. Feldman, L. Devan-Sheehan, & V. L. Allen, "Research on Helping and Inter-Age Interaction: A Critical Review and Analysis," in V. L. Allen (Ed.), Inter-Age Interaction in Children: Theory and Research in the Helping Relationship, Madison: Submitted for publication, University of Wisconsin Press.

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I

LITERATURE REVIEWS AND GENERAL DISCUSSIONS OF TUTORING AND CROSS-AGE INTERACTIONS IN SCHOOLS

Allen, Audrianna. Children as tutors. *Childhood Education*, 1967, *43*, 345-350.

This general discussion recommends methods of pairing students for team learning and peer teaching.

Bonn, Myrtle. Reading pays. *American Education*, 1970, *6*, 26.

A U.S. Office of Education staff member describes several Neighborhood Youth Corps tutoring programs around the country and stresses the benefits for the tutors--academic improvement and dropout prevention.

Bruner, Jerome. The uses of immaturity. *The Times Educational Supplement*, October 27, 1972.

Bruner examines the relationships among youth, roles, and vocations and briefly discusses the cross-age teaching movement.

Christine, Ray O. The pupil-pupil teaching and learning team. *Education*, 1971, *91*, 258-260.

This article is primarily a discussion of the rationale for cross-age and peer tutoring. It includes a very brief review of the literature.

Criscuolo, Nicholas P. Training tutors effectively. *Reading Teacher*, 1971, *25*, 157-159.

A Connecticut reading expert lists five tutoring programs in New Haven, Connecticut, that employ tutors of various ages--both children and adults--and very briefly discusses some of the problems involved in tutoring programs: training, materials, attitude, articulation with teachers, and in-service programs. The author gives suggestions on how to deal with these problems.

Deterline, William A. *Training and management of student tutors: Final Report*. Palo Alto, Calif.: General Programmed Teaching, 1970. (ERIC No. ED 048 133)

This article provides a review and critique of four major tutoring projects: the New York Youth Tutoring Youth Program, the Ontario-Montclair Cross-Age Teaching Project, the Tutorial Community Project, and the Southwest Regional Laboratory Tutorial Program. The author synthesizes the ideas of these projects, outlines a model for training tutors, and suggests procedures for evaluation. (See Section VIII of this bibliography for descriptions of the programs.)

Dillner, Martha. *Tutoring by students: Who benefits?* Gainesville: Florida Educational Research and Development Council, 1972. (ERIC No. ED 061 150)

This article examines some recent studies of cross-age tutoring. The author focuses on the benefits for the tutor and suggests ways in which the classroom teacher can utilize tutoring for the benefit of both tutor and tutee.

Directory of tutorial projects, 1968. Washington, D. C.: U.S. National Student Association, Tutorial Assistance Center, 1968. (ERIC No. ED 023 728)

The U.S. National Student Association's Tutorial Assistance Center has compiled a directory of over 500 tutoring programs in the United States and territories. The directory lists program directors, addresses, dates, content, and participants for each tutoring program. The Tutorial Assistance Center is no longer in existence, but a number of its publications on tutoring are available from the National Student Association in Washington, D. C. (See Section VIII of this bibliography for a description of the Center's materials for tutoring.)

Edwards, K. Anthony. The student as teacher. Paper presented at the annual meeting of the Rocky Mountain Psychological Association, Albuquerque, May 1972. (ERIC No. ED 066 032)

A psychologist discusses students teaching themselves and other students. He describes a study that used the "personalized system of instruction" and reviews a number of studies that used peers as teaching and therapeutic agents.

Elder, Glen H. Peer socialization in school. *Educational Leadership*, 1969, *26*, 465-472.

The author discusses teacher-pupil and pupil-pupil relationships and the advantages of peer and cross-age tutoring.

Gartner, Alan; Kohler, Mary C.; and Riessman, Frank. *Children teach children: Learning by teaching.* New York: Harper & Row, 1971.

This comprehensive book on the theory and practice of peer teaching among children stresses a "nonstructured" approach to tutoring. It includes an extensive bibliography and useful appendices.

Harrison, Grant von. Student peers as human resources. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1973.

Harrison states that children with learning difficulties can improve only with individualized help and that, if tutoring is used, the tutor must be well trained in learning principles and have well-defined instructional objectives. He stresses the importance of carefully written and tested tutor training materials.

Hawkridge, David G. *A study of selected exemplary programs for the education of disadvantaged children.* Palo Alto, Calif.: American Institute for Research in Behavioral Sciences, 1968. (ERIC No. ED 023 777)

This report examines a number of different programs for disadvantaged children, including several tutorial programs.

Hipple, Theodore W. Participatory education: Students assist teachers. *National Association of Secondary School Principals Bulletin,* 1969, *53,* 80-89.

The author proposes a national system of student assistants with students of all age levels and abilities helping teachers teach, grade papers, etc. He cites a number of helping programs in existence around the country and discusses the benefits for the student teachers.

Johnson, Harriet. Pupils as teachers: A brief survey of current programs. *Social Policy,* 1970, *1,* 69-71.

Johnson discusses and criticizes some of the recent peer tutoring programs.

Klaus, David J. *Students as teaching resources: A survey of teaching models using non-professionals (peer tutoring).* Final Report, American Institutes for Research, Contract No. AID/CM/otr-C-73-201, Proj. No. 931-17-690-570, U.S. Agency for International Development, October 1973.

This field survey of eight developing countries in Asia and Africa investigates the feasibility of utilizing students as teaching resources. The report includes a review of past and present peer teaching programs, four models for peer teaching, a design for research on the topic, and criteria for success of peer teaching programs in developing countries.

Lippitt, Peggy. Children can teach other children. *Instructor,* 1969, *78,* 41.

The author presents some general remarks on peer teaching. (See also Lippitt et al. in Section VIII of this bibliography.)

Lippitt, Ronald; and Lippitt, Peggy. Cross-age helpers. *NEA Journal,* 1968, *57,* 24-26.

This article is a general description of the Lippitts' cross-age studies in Michigan. No data are presented. (See also Lippitt et al. in Section VIII of this bibliography.)

McClellan, Billie F. *Student involvement in the instructional process through tutoring.* Gainsville: Florida State Department of Education, 1971. (ERIC No. ED 055 046)

This review and discussion of the literature includes outlines for tutorial manuals; a number of appendices on tutoring, underachievement, and other topics; and a 71-item annotated bibliography on student tutoring. The author considers evidence for improved learning by tutors and tutees and compares the merits of informal tutoring with those of a more structured approach.

Raim, Joan. Rolling out the welcome mat to tutors. *The Reading Teacher*, 1973, *26*, 696-701.

The author, who teaches a course on reading disabilities at City College in New York, discusses the problems of nonprofessional tutors both in and out of schools and suggests ways to solve them with adequate planning, training, and supervision. She feels that the most effective evaluation is observation of the tutee by his teacher when he is back in the classroom. She also suggests that tutor training is most effective during actual tutoring when problems are more concrete and the tutors' enthusiasm is high.

Riessman, Frank. Tutoring the disadvantaged child. Speech presented at the Georgetown University Tutor Orientation Symposium, Washington, D. C., October 1964.

In this speech Riessman discusses the role of the adult tutor in the school setting and what he needs to know about the disadvantaged student. He offers suggestions on ways to overcome the problems of cultural differences between teacher and learner.

Riessman, Frank. It's time for a moon-shot in education. 1965. (ERIC No. ED 013 777)

Riessman discusses education for the disadvantaged in the mid-1960's and focuses on the use of nonprofessionals, peer teaching, and role playing.

Riessman, Frank. Can schools teach children: What is stopping them--what is to be done? *Journal of Research and Development in Education*, 1972, *5*, 83-90.

Riessman discusses the general failure of compensatory educational programs for disadvantaged children. Several successful programs which involved tutoring by paraprofessional adults and children are discussed.

Riessman, Frank; and Gartner, Alan. Paraprofessionals--the effect on children's learning. *Urban Review*, 1969, *4*, 21-22.

This article provides a brief review of two Youth Tutoring Youth programs and some programs that use adult aides.

Rosenshine, Barak; and Furst, Norma. The effects of tutoring upon pupil achievement: A research review. 1969. (ERIC No. ED 064 462)

The authors discuss 16 studies in which the effect of tutoring on the achievement of the tutees was measured. The studies include investigations of tutoring by both adults and children. A number of the studies cited found no differences. The authors discuss the difficulties of assessing achievement and of measuring the value of tutoring. Suggestions for future tutoring studies are presented.

Shaw, Jane S. Cross-age tutoring--How to make it work. *Nation's Schools*, 1973, *91*, 43-46.

The author examines two approaches to peer tutoring--the Lippitt program and the more structured methods of Ebersole and Harrison. Descriptions of some tutoring programs around the country are presented, and various procedures used in implementing tutoring programs are described.

Sisler, Irene. *Peer and cross-age tutoring programs*. Hayward, Calif.: Alameda County School Department PACE Center, 1971.

This review contains a short history of and rationale for peer tutoring and summaries of tutoring programs in individual schools in California and selected sites around the country. No data or detailed evaluation of these programs are given.

Sloan, Nancy E. *Personnel services review. Series 3: Human resources in the guidance programs. Students in helping roles*. Ann Arbor, Mich.: ERIC Counseling and Personnel Services Information Center, University of Michigan, 1970. (ERIC No. ED 036 675)

This Office of Education report briefly describes a collection of programs and studies that use peers in counseling, guidance, or academic tutoring. Although critical comments and data are limited, the author offers suggestions for programs and implementation guidelines.

Stauffer, Russell G.; and Groff, Patrick. Should you use pupil tutors? *Instructor*, 1967, *77*, 35.

In answer to a teacher who asked for solutions to problems with the cross-age tutoring program in his school and particularly for information on how much tutors can do, the authors state that teachers cannot expect tutors to diagnose problems but should provide the tutors with specific plans and procedures. The authors suggest that slower children should be used as tutors and they warn against using the tutors' own class time for tutoring.

Thelen, Herbert A. *Learning by teaching*. Chicago: University of Chicago, 1968.

Thelen reports on the Helping Relationship Conference held at the University of Chicago in 1968 during which teachers and psychologists explored the benefits of tutoring by children. The report discusses the role of the teacher, modes of tutoring, individualization through tutoring, and strategies for managing tutoring programs in schools. Fifteen tutoring programs in the United States are outlined, and relevant references and names and addresses of program coordinators are given. Included with the report are comments by conference participants and a bibliography of related sources.

Thelen, Herbert. Tutoring by students. *School Review*, 1969, *77*, 229-244.

Thelen describes tutoring programs in selected schools and discusses the value of tutoring and the helping relationship. Possible and potential uses of tutoring include reducing anxiety and competitiveness, enhancing the self-esteem of tutors, helping students prepare for adult roles, individualizing instruction, and increasing the total amount of teaching in a school.

Warner, Dolores. The tutor-taught: Individualizing reading instruction. *Journal of the Reading Specialist*, 1970, *10*, 24-29.

Warner briefly reviews selected tutoring programs and experimental studies of tutoring involving underachieving and low-income children.

Wright, Benjamin. Should children teach? *Elementary School Journal*, 1960, *60*, 353-357.

The author explores the origins of the desire to become a teacher. In this context he discusses children teaching other children and traces the history of peer teaching from the Renaissance through Comenius, Lancaster and Bell, Fowle, and others. Three main effects of peer tutoring are mentioned: helping children learn, helping the teacher cope with overcrowded classrooms, and encouraging children to undertake teaching careers.

II

TUTORING BY ELEMENTARY SCHOOL STUDENTS

Ackerman, Arthur P. The effects of pupil tutors on arithmetic achievement of third-grade students. Unpublished doctoral dissertation. University of Oregon, 1969. (See *Dissertation Abstracts International*, 1970, *31*[3-A], 918.)

In this experiment, 24 low-achieving third graders were tutored in arithmetic by either low-achieving sixth graders or high-achieving sixth graders. The students who were tutored had significantly higher scores in arithmetic computation than a control group of third graders who remained in their regular classes. The students tutored by low-achieving sixth graders performed as well as those tutored by the high-achievers.

Allen, Vernon; and Feldman, Robert S. Learning through tutoring: Low-achieving children as tutors. *Journal of Experimental Education*, 1973, *42*, 1-5.

Low-achieving fifth-grade children either taught a third-grader or studied alone for a series of daily sessions. At the end of a two-week period, the low-achievers' performance was significantly better in the tutoring condition than in the studying alone condition--a reversal in direction of the initial difference between conditions. There was no differential effect on tutees being taught versus studying alone. Results suggest that serving as a tutor may be a particularly useful method for enhancing the academic performance of low-achieving children.

Alsin, Mary L. How we love our lunch-break tutors. *Grade Teacher*, 1969, *87*(1), 94-95.

This article describes a volunteer, lunch-time program in which sixth graders tutor first graders in basic skills.

Balmer, Joann. Project tutor: Look! I can do something good. *Teaching Exceptional Children*, 1972, *4*, 166-175.

In this study, fourth, fifth, and sixth graders with academic and behavioral problems tutored younger handicapped children in academic and physical activities. Tutors were innovative and cooperative and showed improvement in academic and social behavior.

Bender, Kenneth R. Using brighter students in a tutorial approach to reading. *Peabody Journal of Education*, 1967, *45*(3), 156-157.

The author suggests using brighter students to help below-average students when the teacher does not have time for individualized work. He feels that students can often communicate with other students better than the teacher can, and he warns against abusing the rights of the tutors.

Boss, Richard. Portland's personalized education program. *Educational Leadership*, 1972, *29*, 405-407.

This article describes a large flexible education program that includes cross-age tutoring and is intended to suit the needs of all students. Students work at their own rate in a non-graded situation. The more advanced students help the others.

Boyd, Grace S. Reading achievement and personal adjustment: A study of the effects of participation as a tutor and as a pupil in an elementary school tutorial reading program. Unpublished doctoral dissertation, University of Alabama, 1969. (See *Dissertation Abstracts International*, 1970, *30*[11-A], 4764.)

In this experiment, sixth graders were given reading instruction and tutor training and then tutored third graders for 8 weeks. One sixth-grade control group was given reading instruction but did not tutor, and another sixth-grade control group participated in regular class work only. Tutors had greater gains in reading than controls, but the differences were not statistically significant. The third-grade tutees had significantly greater gains in reading than their controls.

Brantley, Betty C. Effects of a sibling tutorial program on the language and number concept development of Head Start children. Unpublished doctoral dissertation, Florida State University, 1970. (See *Dissertation Abstracts International*, 1971, *32*[1-A], 300.)

In this study, children 9 to 12 years old tutored their 5-year-old siblings in reading and mathematics. The short-term tutorial program did not effect significant changes in the younger children, but there was a significant positive correlation between the achievement levels of the tutors and the posttest scores of their sibling tutees.

Brantley, Betty C.; and Long, JoAnn. Pre-reading experiences: Let siblings help. *Florida Reading Quarterly*, 1973, *13*.

In this discussion of the rationale for and advantages of tutoring by elementary age siblings, the authors propose a program of home tutoring in which the tutors are trained at school under the direction of teachers.

Brottman, Marvin A.; and Katz, William K. *Multi-grade helping relationship program final report*. Park Forest South, Illinois: Governors State University, undated.

Help Yourself by Helping Others is a program supported by a Title III grant given to the city of Chicago to develop a model for a multi-grade organization based on cross-age helping relationships. The goal is to establish a "secure, relaxed, nonjudgmental learning environment." Sixth graders at Aldridge Elementary School worked with third graders on a variety of struc-

tured tasks. The evaluation showed no significant changes in reading scores for either grade after the first year, but there was improvement in student attendance, research skills, and attitudes toward school.

Carlson, Richard T. An investigation into the effects student tutoring has on self-concept and arithmetic computation achievement of tutors and tutees. Unpublished doctoral dissertation, Northern Illinois University, 1973. (See *Dissertation Abstracts International*, 1973, *34*[5-A], 2265.)

In this controlled experiment in which sixth graders and fourth graders either engaged in peer tutoring or studied alone, it was found that tutoring or being tutored had no greater effect than individualized study on self-concept or arithmetic computation. There were no differences in effects from trained, structured, or "free style" tutoring.

Cicirelli, Victor G. The effect of sibling relationship on concept learning of young children taught by child-teachers. *Child Development*, 1972, *43*, 282-287.

Cicirelli describes an experiment in which children taught the trapezoid concept to their younger siblings. He found that male learners had higher concept attainment scores than female learners and that female siblings were more effective teachers than male siblings and female non-siblings.

Conn, Frances M. The language of sixth grade tutors. Unpublished doctoral dissertation, Claremont Graduate School and University Center, 1970. (See *Dissertation Abstracts International*, 1971, *31*[12-A], 6273.) (ERIC No. ED 057 041)

Conn investigated the language of sixth graders in two roles--that of learner and that of teacher. Their speech was analyzed while they were being taught by an adult teacher and while they were tutoring third graders. It was found that the sixth graders used speaking patterns similar to a teacher's and produced longer and more complex utterances when teaching younger children than when in the learner role.

Criscuolo, Nicholas P. Developing a junior assistants corps in reading. *Education*, 1973, *93*, 301.

This article describes a New Haven, Connecticut, program in which sixth graders with poor behavior, attendance, and reading ability, tutored first graders "lagging behind" in reading skills. Reading improvement for both tutors and tutees "exceeded reading expectancy levels." Teachers reported increased enthusiasm, improved attendance and self-image, and many social and emotional benefits for both tutees and tutors.

Driscoll, Patrick A. A summer remedial program for primary children. *National Elementary Principal*, 1969, *48*, 43-44.

In this study 40 sixth graders at Walt Whitman Elementary School in Milwaukee volunteered to work during the summer with primary school children on a one-to-one basis at home with no supervision. Only unacquainted children were paired, and both tutor and tutee were expected to gain from the association. No data were collected, but reactions of children, parents, and teachers, as reflected in interviews, were positive.

Feldman, Robert S.; and Allen, Vernon L. Effect of tutee's performance on tutor's attitudes and attributions. Paper presented at the 80th Annual Convention of the American Psychological Association, Honolulu, Hawaii, September 1972.

In this experiment sixth graders taught a concept to second graders who were confederates of the experimenter and whose responses were planned. After tutoring the tutors made judgments about the intelligence of the learners. There was a distinct "primacy" effect; the tutors' attitudes and judgments of the tutees' ability were determined by the tutee's initial performance and were not affected by subsequent changes in performance.

Feshbach, Norma; and Devor, Geraldine. Teaching styles in four-year-olds. *Child Development*, 1969, *40*, 183-190.

This study investigated race- and class-related differences in styles of reinforcement. Black and white, middle and lower class 4-year-olds taught 3-year-olds how to do puzzles. Analysis of their behavior during teaching revealed no differences among groups with respect to use of negative reinforcement, but middle class white children used more positive reinforcement than lower class whites and more than middle and lower class blacks.

Fisher, Renee B. An each-one-teach-one approach to music notation. *Grade Teacher*, 1969, *86*(6), 120.

A music teacher paired third graders so that the better students taught musical notation to their peers. The teacher worked with control students herself and found that the students taught by their peers scored consistently higher than controls on notation tests.

Fleming, J. Carl. Pupil tutors and tutees learn together. *NEA Journal*, 1969, *58*, 22-24.

This article describes the Student Team Action program begun in Portland, Oregon, in 1965. All upper grade students tutored all lower grade students in different subject matter areas. No data are presented, but the author reports considerable positive change in the behavior of tutors.

Foster, Portia. Attitudinal effects on fifth graders of tutoring younger children. Unpublished doctoral dissertation, University of Oregon, 1972. (See *Dissertation Abstracts International*, 1972, *33*[5-A], 2235.)

In this study all students in two fifth-grade classes were paired with second-grade "buddies." For half an hour a day, once a week, they worked with their buddies and prepared lesson plans. Afterward they worked with their own teachers. Assessment techniques were observation, interviews, teacher ratings, and sociometric measures. The only significant result was that a majority of all students preferred same-sex children as buddies.

Fox, Robert S.; Lippitt, Ronald; and Lohman, John E. *Teaching of social science materials in the elementary school*. Ann Arbor: University of Michigan, 1965. (ERIC No. ED 001 135)

This report describes several programs in which sixth graders acted as helpers in early primary grade classes by working on socialization, play, basic skills, and other activities with the younger students. These programs were part of an investigation of the nature of cross-age relationships, of the reasons that older and younger students are drawn together, and of the types of interactions that are possible in the school setting. A discussion of training procedures and of the reactions of participating students is included.

Frager, Stanley; and Stern, Carolyn. Learning by teaching. *The Reading Teacher*, 1970, *23*, 403-405.

This article describes an experiment in which sixth graders tutored kindergartners. Tutors were trained by graduate students who used either "directive counseling techniques" or problem-solving methods. The kindergartners made significant improvements in achievement, and the tutors "benefitted affectively" from the experience. There were no differences that could be attributed to the different counseling modes.

Geiser, Robert L. Some of our worst students teach! *Catholic School Journal*, 1969, *69*, 18-20.

Geiser describes a tutoring program (at a child care center for wards of the state) in inner-city Boston. Students in fifth through eighth grades with behavior problems tutor students in first through fourth grades in reading and mathematics. The benefits for both tutors and tutees are discussed.

Hamblin, June A.; and Hamblin, Robert L. On teaching disadvantaged preschoolers to read: A successful experiment. *American Educational Research Journal*, 1972, *9*, 209-216.

In this 8-week experiment 32 inner-city preschoolers were "tutored" by either Job Corps teenagers or faster learning peers under several different token exchange conditions. Most tutees were white. The tutoring consisted of monitoring, prompting, and verbally reinforcing the tutee while he was engaged in using the Language Master materials for learning new sounds (self-teaching materials). The combination of peer (rather than adult) tutoring and token reward for performance rather than for attendance produced the best results in terms of total books read and words or symbols learned.

The authors feel that the tutors learned as much while tutoring as while being tutored and that the results contradict the traditional "ideal learning environment"--that is, tutoring by an adult and reward for attendance.

Harris, Mary M. Learning by tutoring others. *NEA Journal*, 1971, *60*, 48-49.

The author describes a program of her own design in which 18 sixth graders who were poor readers tutored poor readers in first through fourth grades in phonics. The tutoring privilege was used as an incentive for the sixth graders to read. Results varied, but no data are given. The author reports that "average-high intelligence" tutors improved more than others, but that all gained "dignity" and received an ego boost.

Harris, V. William; and Sherman, James A. Effects of peer tutoring and consequences on the math performance of elementary classroom students. *Journal of Applied Behavior Analysis*, 1973, *6*, 587-597.

Harris and Sherman studied the effects of informal, unstructured peer tutoring on fourth and fifth graders with poor mathematics performance. Students had consistently higher accuracy and rate of performance on mathematics problems when they tutored each other before daily mathematics sessions. Results of a control condition in which students studied independently suggest that the better performance was largely attributable to the interactions between students and not to the extra practice time. The authors discuss the advantages of peer tutoring in the classroom. (See also Harris, Effects of peer tutoring, homework and consequences upon the academic performance of elementary school children. University of Kansas, 1972. Unpublished doctoral dissertation. *Dissertation Abstracts International*, 1973, *33*[11-A], 6175.)

Harris, V. William; Sherman, James A.; Henderson, David G.; and Harris, Melissa S. Effects of peer tutoring on the spelling performance of elementary classroom students. In G. A. Semb (Ed.), *Behavior Analysis in Education*. Lawrence, Kan.: The University of Kansas, 1972. Pp. 222-231.

The authors investigated the effects of informal, unstructured peer tutoring on fifth graders. Students were given a series of weekly work lists to study, and pretests and posttests on spelling were administered. Students were permitted to arrange themselves in small groups and tutor one another during the study period. A second "comparison" series of word lists was not studied. In another phase of the experiment, students studied the word independently. It was found that students made consistently higher pretest to posttest gains with the tutored words than with those studied independently or with those not studied. (See also Harris, Effects of peer tutoring, homework and consequences upon the academic performance of elementary school children. Unpublished doctoral dissertation. University of Kansas, 1972. *Dissertation Abstracts International*, 1973, *33*[11-A], 6175.)

Harrison, Grant von. The effects of professional and non-professional trainers using prescribed training procedures on the performance of upper grade elementary school tutors. Unpublished doctoral dissertation, University of California at Los Angeles, 1969. (See *Dissertation Abstracts International*, 1970, *30*[11-A], 4852.)

Two professional educators and two nonprofessionals trained fifth- and sixth-grade tutors to use prescribed tutoring procedures (avoiding punishment, clarifying tasks, using rewards, etc.). One group of tutors received

no training. Tutors were observed and scored for behavior when they tutored first graders in mathematics. Trained tutors scored significantly higher than nontrained tutors on the use of the specified tutoring techniques. There were no differences between tutors trained by professionals and those trained by nonprofessionals. In addition, the first-grade tutees of trained tutors scored significantly higher on achievement tests than the tutees of nontrained tutors.

Harrison, Grant von. The effects of trained and untrained tutors on the criterion performance of disadvantaged first graders. Paper presented at the meeting of the California Educational Research Association, Los Angeles, March 1969. (ERIC No. ED 031 449)

Harrison describes his efforts to identify and validate appropriate tutoring techniques for teaching mathematical equations. In a series of experiments, upper-grade elementary students were trained in these techniques and then tutored first graders. Their performance was seen to be more successful than that of untrained tutors of the same age.

Harrison, Grant von; and Brimley, Vern. The use of structured tutoring techniques in teaching low-achieving six-year-olds to read. Paper presented at the meeting of the American Educational Research Association, New York, February 1971. (ERIC No. ED 047 898)

Harrison and Brimley conducted a study of cross-age tutoring using a highly individualized reading program for low-achieving kindergartners. For 6 weeks the kindergartners were tutored by volunteer upper-grade elementary students who used programs individually prescribed for each tutee. A high percentage of the tutees reached criterion performance on five reading skill objectives, and the tutors reacted positively to the experience.

Harrison, Grant von; Nelson, Wayne; and Tregaskis, Lyle. The use of a structured tutorial reading program in teaching nonreading second graders in Title I schools to read. Paper presented at the meeting of the American Educational Research Association, Chicago, April 1972. (ERIC No. ED 065 841)

This paper describes a study in which upper-grade elementary students in 10 Title I schools tutored younger students in phonetic skills; controls from three non-Title I schools were included in the study. Harrison's Structured Tutoring System was used, and tutoring took place 4 days a week for 5 months. Mean posttest reading scores are presented. Results fell short of Harrison's suggested criterion, but the authors feel that the effects were positive and that tutors were successful in teaching their tutees to decode words.

Hawaii English Program: Project end evaluation report, 1970-1971. Honolulu: Hawaii State Department of Education, 1971. (ERIC No. ED 064 265)

The Hawaii English Program is a comprehensive, integrated K-12 language curriculum that was developed by the Hawaii Department of Education and the University of Hawaii. It consists of three subprograms--Language Systems, Language Skills, and Literature--with specific instructional objectives for each grade level that are designed to meet the needs of the individual child. As part of this individualized approach, peer tutoring is used in the elementary skills program; students work in groups of two or three with the materials provided by the program. Experience with the program has shown that early primary students can improve their language skills by tutoring

other students. This report is a lengthy document composed of the Final Audit Report by the Northwest Regional Educational Laboratory and an evaluation report by the project staff. Included are a description of the program and the results of one year of assessment. Further information on this program is available from the English Project Staff, Hawaii Curriculum Center, 1750 West Pl., Honolulu, Hawaii 96822.

Keislar, Evan R.; and Blumenfeld, Phyllis. *A peer tutoring game for four-year olds*. Los Angeles: UCLA Early Childhood Research Center, 1972. (ERIC No. ED 065 181)

This paper describes a pilot study of a game for 4-year-olds in which one child teaches language skills to another who is not yet competent in the skills. The authors feel that children can learn from competent peers, although their results were not significant. They suggest that children be allowed to choose their own peer tutors.

Kelly, Francis D., Jr. The differential effects of giving vs. receiving help in a cross-age helping program. Unpublished doctoral dissertation, University of Florida, 1970. (See *Dissertation Abstracts International*, 1971, *32*[1-A], 180.)

Sixth graders tutored fourth graders and fourth graders tutored first and second graders in reading and mathematics 1 hour a week for 11 weeks. The tutoring produced no significant results in terms of academic performance, self-confidence, or school attitude. The author feels that the lack of results may be attributed to extraneous disturbing events that occurred in the school during the experiment.

Kelly, Marcus R. Pupil tutoring in reading of low-achieving second-grade pupils by low-achieving fourth-grade pupils. Unpublished doctoral dissertation, University of Kentucky, 1971. (See *Dissertation Abstracts International*, 1972, *32*[9-A], 4881.)

Kelly investigated the efficacy of cross-age tutoring by low-achieving tutors. He reviews the history of pupil tutoring and discusses the implications for school programs, teachers, and research. His own experiment did not result in significantly improved reading achievement for the tutored pupils.

Klentschy, Michael P. An examination of sex-pairing effectiveness for reading tutoring. Paper presented at the 50th Annual Conference of the California Educational Research Association, San Diego, November 1971.

Klentschy investigated two questions: Does the tutor learn what he teaches while tutoring in reading? What is the best cross-age sex pairing? Low-achieving readers in the sixth grade tutored third graders. One group tutored in word attack skills, a second group tutored in mathematics, and a third control group was tested but did not tutor. Results indicated that there is a significant transfer of learning to the tutor during tutoring. Sixth graders who tutored younger children in word attack skills made significant gains in reading achievement, while those who tutored in mathematics and those in the control group did not. Boys, particularly those who tutored boys, made the most significant gains after tutoring. There was no difference between girls who tutored boys and those who tutored girls.

Klentschy, Michael P. The effect of sixth-grade tutors on the word attack attainment of second graders. Paper presented at the 51st Annual Meeting of the California Educational Research Association, San Jose, November 1972.

In this study, a group of second graders who needed help in word attack skills were tutored for a period of 2 months by sixth-grade low-achievers in reading. A control group received normal classroom instruction only. Results indicated that the children who were tutored had significantly higher posttest reading scores than children who were not tutored and that boys made significantly greater gains than girls. Boys tutored by boys performed better than girls tutored by boys; boys tutored by girls performed better than girls tutored by girls. Klentschy suggests that "tutoring may be a way to facilitate the motivational as well as the model identification problems of boys."

Kokovich, Anthony; and Matthews, Gerald. Reading and the self-concept. *National Elementary Principal*, 1971, *50*, 53-54.

A program of cross-age tutoring and group counseling was instituted to improve the self-concept and behavior of underachieving sixth-grade boys. The sixth graders acted as "student listeners" for first graders with reading problems. At the end of the year the tutors had made gains in reading of from 4 months to 3 years. Most of the tutors improved their self-image and went on to satisfactory progress in high school.

Lakin, David S. Cross-age tutoring with Mexican-American pupils. Unpublished doctoral dissertation, University of California, Los Angeles, 1971. (See *Dissertation Abstracts International*, 1972, *32*[7-A], 3561.)

In this study low-achieving fifth- and sixth-grade Mexican-American children tutored Head Start children for 8 weeks. Using programmed materials, tutors read stories to the tutees and questioned them. Control groups of Mexican-American and Anglo-American children did not tutor. Analysis of pretests and posttests revealed that while all groups made significant gains in vocabulary, the group score for the Mexican-American children who tutored was significantly higher than the group scores for the other children. They did not, however, make significant gains in oral reading ability.

Lamal, Peter. *A preliminary study of tutorial procedures in the elementary school*. Working Paper No. 39. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1970.

Fifth and sixth graders tutored second and third graders for 10 weeks on problems of word recognition. The experimental variables were tutoring versus no tutoring and sex and grade of tutors and tutees. Results were measured in terms of oral reading errors, sight vocabulary scores, and measures of imitation. No significant effects on the tutees were found. Several possible reasons for the lack of significant results were presented; they included the intensity of the experimental tutoring and problems of control and evaluation.

Liette, Eileen E. Tutoring: Its effects on reading achievement, standard setting and affect in mediating self-evaluation for black male underachievers in reading. Unpublished doctoral dissertation, Case Western

Reserve University, 1971. (See *Dissertation Abstracts International*, 1972, *32*[8-A], 4244.) (ERIC No. ED 059 020)

A group of black male students from a low-income inner-city school tutored younger boys from the same population. Controls for the tutors and tutees did not participate in tutoring. Results revealed that both tutors and tutees made significant gains in reading achievement. It was also found that students who tutored established lower and more realistic standards for themselves than did controls, although there were no differences on frequency of positive self-evaluation. The author suggests using a long-term tutoring program for effective behavioral change.

Lippitt, Peggy; and Lippitt, Ronald. The peer culture as a learning environment. *Childhood Education*, 1970, 135-138.

The authors have been studying cross-age programs in Michigan for several years. They present a rationale and methods for creating a noncompetitive, helping classroom environment that utilizes children and adults as resources for cross-age helping.

Lippitt, Peggy; and Lohman, John E. Cross-age relationships--an educational resource. *Children*, 1965, *12*, 113-117.

The authors report their conclusions from a number of pilot projects involving cross-age relationships among children. They discuss the nature and benefits of these interactions, the dynamics of the cross-age modeling process, and the impact upon the socialization of the older and younger children. Also, they present the details of a project with sixth graders as tutors along with anecdotal reports from teachers.

Lyle, William. An attitudinal study of pupils and teachers in a tutorial community project. Unpublished doctoral dissertation, Brigham Young University, 1971. (See *Dissertation Abstracts International*, 1971, *32*[6-A], 2916.)

Lyle investigated changes in attitudes toward school, teachers, and peers by participants in the Tutorial Community Project at Pacoima, California. In this study second and sixth graders and teachers of kindergarten through sixth grade were involved in cross-age tutoring. In general, no differences in attitudes were found between pupils and teachers involved in tutoring and those not involved. (See also Melaragno & Newmark below and the description of the Tutorial Community Project in Section 8 of this bibliography.)

Majors, Hughie L. Working together works. *Childhood Education*, 1971, *48*, 25-28.

In this study 22 sixth graders tutored 18 first graders in reading, mathematics, and other subjects at a university laboratory school in New York. First graders improved in reading ability. The sixth-grade girls who tutored improved more than the boys who tutored.

Matteoni, Louise; and Sharefkin, Belle. The classroom pairing program. *Urban Review*, 1972, *514*, 44-46.

This article describes a program in New York City schools in which students

in second through sixth grades were paired with classmates for tutoring in reading. The emphasis was on improvement of nonacademic aspects of behavior. No data were collected, and there were no controls. Many "positive psychological and behavioral effects" were noted.

McHugh, Walter J. Pupil team learning in skills subjects in intermediate classes. Unpublished doctoral dissertation, Boston University, 1960. (See *Dissertation Abstracts International*, 1960, *21*[6-A], 1460.)

"Team learning" was used in a year-long study in 35 fourth-, fifth-, and sixth-grade classrooms. Teams of two or three students worked together at their own rate. Achievement tests at the end of the study revealed that total achievement and arithmetic achievement of fifth and sixth graders increased significantly, reading and language achievement of fourth and fifth graders increased significantly, and spelling achievement of all students increased. Gains were made at all IQ levels, and the students' own scores from the previous year served as control measures.

Melaragno, Ralph J.; and Newmark, Gerald. A tutorial community works toward specified objectives in an elementary school. *Educational Horizons*, 1969-70, *48*, 33-37.

Melaragno and Newmark review the 1967 pilot study and outline the objectives and characteristics of the 7-year Tutorial Community Project at Pacoima, California. This is a cross-age tutoring program involving an entire school--all children and teachers at all grade levels. Plans for evaluation are discussed. (See also Lyle above and the description of the Tutorial Community Project in Section VIII of this bibliography.)

Mollod, Ruth W. Pupil-tutoring as part of reading instruction in the elementary grades. Unpublished doctoral dissertation, Columbia University, 1970. (See *Dissertation Abstracts International*, 1970, *31*[4-B], 2260.)

Second and third graders tutored lower-achieving peers for 4 months; controls were included. It was found that tutored students had significantly greater gains than controls in word knowledge but that differences in reading comprehension were not significant. Second-grade tutors gained significantly more than second-grade tutees; there were no differences between third-grade tutors and tutees. It was noted that there was a tendency for third-grade tutors to make greater gains when paired with partners close to them in achievement level.

Moon, Mozetta; and Wilson, Doris. Teacher-counselor cooperation: Building self-concepts and confidence in children. *School Counselor*, 1970, *17*, 364-366.

The authors describe a project in Brooklyn, New York, in which fifth graders of all ability levels tutored first graders for 6 months in an effort to raise the tutors' self-concept and help the younger children with academic and personal adjustment. First graders had an average gain in reading scores of 1.9 years. The behavior and positive feelings of the tutors improved markedly. No data are presented.

Morita, Haruko. The effects of cross-age tutoring on the reading achievement and behavior of selected elementary grade children. Unpublished doctoral dissertation, University of South Carolina, 1972. (See *Dissertation Abstracts International*, 1972, *33*[4-A], 1374.

This experiment investigated the effects of cross-age tutoring on 6- to 12-year-old students in Los Angeles; most students were Mexican-Americans. Both tutors and tutees showed significant gains in reading achievement compared to controls who did not participate in tutoring. Age and sex were influential variables for the tutees; second-grade girls profited most from tutoring. Tutees showed a high correlation between improvements in reading and improvements in behavior, but tutors did not. The author suggests further study of the variables involved and advocates that students be trained in school to tutor their non-English speaking parents.

Murphy, Anne; and Held, Marie. Intergrade reading. *Grade Teacher*, 1971, *89*(3), 104-106.

In an experimental program at Ames Laboratory School, Wisconsin State University, River Falls, fourth graders used audio-visual equipment to teach reading and writing skills to first graders. Both groups gained from the experience, but there was no formal evaluation.

Myers, Kent E.; Travers, Robert; and Sanford, Mary. Learning and reinforcement in student pairs. *Journal of Educational Psychology*, 1965, *56*, 67-72.

The authors conducted a study to determine how much fourth, fifth, and sixth graders learn in the teaching role, in the student role, and during self-instruction. In a rote learning task students either taught their peers, were taught by peers, acted in both of these roles, or taught themselves. Those who taught the task to others only had consistently lower retention scores. The authors feel that verbal reinforcement by another person is an important component in learning and that such reinforcement was not received by the students acting as teachers.

Niedermeyer, Fred C. Effects of training on the instructional behaviors of student tutors. *Journal of Educational Research*, 1970, *64*, 119-123.

This study investigated the behaviors of fifth graders tutoring kindergartners using the SWRL (Southwest Regional Laboratory for Educational Research and Development) Tutorial Program. Some tutors were trained and the others were untrained; the trained tutors were volunteers and had experience in tutoring and the untrained tutors were selected and had no experience. Trained tutors scored significantly higher than untrained tutors on holding friendly conversation with tutees, confirming behavior, praising, correcting errors, and eliciting correct responses. Niedermeyer stresses the importance of careful tutor training.

Niedermeyer, Fred C.; and Ellis, Patricia. Remedial reading instruction by trained pupil tutors. *Elementary School Journal*, 1971, *71*, 400-405.

This article reports a tutoring study that was based on the belief that students trained in instructional techniques can maintain and strengthen learning acquired in the classroom by tutoring younger children with materials that are highly structured and tied directly to specified pupil behaviors. Seventy-five fifth and sixth graders in Los Angeles

were trained by kindergarten teachers and then tutored kindergartners in 20-minute sessions. It was found that students who were trained displayed the recommended instructional behaviors significantly more often than students who were not trained in tutoring. It was also found that those kindergarten tutees who received remedial work from tutors and teachers had significantly greater posttest reading scores than those who were helped by teachers only.

Norris, Robert E.; and Wartland, Phyllis J. Big brothers and sisters assist readers. *School and Community*, 1972, *58*, 8.

This article describes a tutoring program in a Missouri elementary school in which fifth- and sixth-grade volunteers tutored first and second graders during recess. There was no formal evaluation, but the authors discuss the advantages for tutors with special problems such as low achievement, physical handicaps, and habitual absenteeism.

Paoni, Frank. Reciprocal effects of 6th graders tutoring 3rd graders in reading. Unpublished doctoral dissertation, Oregon State University, 1971. (See *Dissertation Abstracts International*, 1971, *31*[8-A], 3993.)

In this controlled experiment, sixth graders tutored third graders in reading every day for 4 months. Results of pretests and posttests showed that tutored third graders improved more than controls in comprehension and attitude. Tutors had greater improvement than controls in attitude only.

Pollack, Cecelia; Sher, Norman; and Teitel, Beatrice. Sixth-grade tutors prevent reading failure. *Educational Product Report*, 1969, *2*, 25-29.

As part of a failure prevention program, sixth graders chosen for their ability to relate to younger children tutored first graders, using carefully prescribed, structured tasks. The program was based on specific theoretical beliefs concerning visual, auditory, and kinesthetic developmental factors. This article describes tutor preparation and methods. A controlled evaluation was done, but the results are not reported.

Rime, Laura; and Ham, Jane. Sixth-grade tutors. *Instructor*, 1968, *77*, 104.

Three sixth graders (poor readers) tutored 3 second graders (non-readers) every day. During tutoring, the tutors monitored the tutees' reading and played games with them. No data are discussed, but the second graders showed marked improvement in reading and the sixth graders showed improved morale, self-confidence, and attitude toward learning.

Robbins, Janice; and Hallock, Virginia. The young can teach too. *Childhood Education*, 1965, *42*, 79-83.

The authors describe a program for first and sixth graders in an Arizona elementary school with many Spanish-speaking students. It was designed to help orient the incoming first graders, to encourage them to speak English, and to provide initiative and leadership experiences for the sixth graders. A program of interaction between the two groups was set up to provide cooperative experiences, both academic and social, two

or three times a week. The children participated in groups and in pairs. Some of the experiences were field trips, conversation, teaching art, story writing, and mutual description. Tapes and records were used to encourage the first graders to use English. The major results of the program were improvements in reading and communication skills, more use of English by Spanish speakers, and better intercultural relations. There was no objective evaluation.

Robertson, Douglas J. The effect of fifth grade student tutors on the sight word vocabulary attainment of first graders. Paper presented at the 50th Annual Conference of the California Educational Research Association, San Diego, November 1971. (ERIC No. ED 055 735)

In this study 33 first graders were tutored on a one-to-one basis by fifth graders identified as low-achievers in reading. Tutors were trained in the use of picture-word cards and tutored in 30-minute sessions 3 days a week for 2 months. A word recognition test was administered to the first graders before and after tutoring. It was found that both experimental (tutored) and control (nontutored) first graders made significant pretest to posttest gains in word recognition but that those who were tutored had significantly higher posttest scores. The author attributes the success of tutoring to the careful training and informing of the tutors and feels that there are positive effects on the tutor as well as on the learner.

Robertson, Douglas J. Intergrade teaching: Children learn from children. In S. L. Sebesta and C. J. Wallen (Eds.), *The first R: Readings on teaching reading*. Chicago: Scientific Research Associates, 1972. Pp. 277-283.

Robertson reports the results of a cross-age tutoring study involving 93 low-achieving fifth graders who tutored first graders in sight word recognition. In this study he examined the effects on tutors with respect to reading achievement as well as attitudes toward reading, teachers, and self. The tutors had significantly higher reading achievement scores and significantly more positive attitudes after tutoring than control students who did not tutor. Also, first graders who were tutored made significantly higher gains in reading than their controls. Detailed descriptions of the tutor-training procedures and tutoring skills are included. (See also Robertson, The effects of inter-grade tutoring experience on tutor attitudes and reading achievement. Unpublished doctoral dissertation, University of Oregon, 1971. *Dissertation Abstracts International*, 1971, *32*(6-A), 3010.)

Rogers, Mary S. A study of an experimental tutorial reading program in which sixth-grade underachievers tutored third-grade children who were experiencing difficulty in reading. Unpublished doctoral dissertation, University of Alabama, 1969. (See *Dissertation Abstracts International*, 1970, *30*[11-A], 4695.)

In a controlled study in which sixth-grade underachievers tutored third graders, it was found that acting as a tutor was no more effective for the older children than intensive reading instruction or the regular classroom program. However, third graders who were tutored by the older pupils did have significantly greater improvements in reading than those who were in the regular classroom program.

Rosner, Herbert. Facets of a cross-grade tutorial program. Paper presented at the International Reading Association Conference, Anaheim, Calif., 1970. (ERIC No. ED 041 721)

Fifth- and sixth-grade remedial students taught second and third graders for 10 weeks. At the start of the program all tutors and tutees averaged 2 or more years below the reading levels for their grades. After tutoring, the tutees showed an average gain of 4 months in reading and the tutors showed an average gain of 1 or more years. The author discusses the characteristics of a successful cross-age tutoring program and offers suggestions for planning, tutor training, techniques, and activities.

Roussin, Ramon L. The effects of three cross-age tutoring programs on a semantic differential measure of attitudes toward school and self and on reading achievement of 6th grade tutors. Unpublished doctoral dissertation, University of Iowa, 1971. (See *Dissertation Abstracts International*, 1972, *32*[8-A], 4253.)

More than 250 sixth graders from 3 different Iowa schools tutored first graders for 15 minutes a week for 8 weeks under 3 different conditions: reading to tutees, listening to tutees reading, and observing filmstrip stories with tutees. The results did not demonstrate attitudinal changes in the tutors, and achievement results were mixed. The author questions the sensitivity of the measures used in evaluation and recommends further studies covering a longer period of time.

Rust, Samuel P., Jr. The effect of tutoring on the tutor's behavior, academic achievement, and social status. Unpublished doctoral dissertation, University of Oregon, 1969. (See *Dissertation Abstracts International*, 1970, *30*[11-A], 4862.)

A group of randomly selected sixth-grade students either tutored third graders in arithmetic or were paired with them for play and reading activities but did not tutor them in arithmetic. A control group of sixth graders remained in regular classes. There were no significant differences among the groups of tutors in social status or behavior after tutoring. Those students who tutored showed significantly higher achievement than the controls, while those who acted as "buddies" with third graders showed no higher achievement than controls.

Shapiro, Annette F.; and Hopkins, Lee B. Pupil-teachers. *The Reading Teacher*, 1967, *21*, 128-129.

In this program sixth graders in a Harlem school became "teachers" in first-grade classrooms; they read stories, created visual aids, etc. The original aim of the program was to create a situation in which "first graders might see their peers in an intellectual, rather than a monitorial role." The sixth graders received many benefits including responsibility and skill development.

Snapp, Matthew; Oakland, Thomas; and Williams, Fern C. A study of individualizing instruction by using elementary school children as tutors. *Journal of School Psychology*, 1972, *10*(1), 1-8.

This article describes a controlled study in which two groups of black

and Mexican-American fifth and sixth graders tutored first, second, and third graders in reading for 3 months. One group used reinforcement during tutoring and the other group did not. The results "clearly indicate that when given proper instructions and supervision, fifth- and sixth-grade children can effectively tutor younger children." The tutees had significantly greater gain scores than controls who were not tutored. Tutors, however, did no better than controls who did not tutor. There were no differences between the two tutoring conditions. It was noted that tutees seemed highly motivated to participate but that there was difficulty in maintaining motivation for tutors. (See also Snapp, A study of the effects of tutoring by fifth and sixth graders on the reading achievement scores of first, second, and third graders. Unpublished doctoral dissertation, University of Texas, Austin, 1970. *Dissertation Abstracts International*, 1971, *31*[12-A], 5860.)

Stainback, William C. Effects of pupil-to-pupil tutoring on arithmetic achievement and personal and social adjustment. Unpublished doctoral dissertation, University of Virginia, 1971. (See *Dissertation Abstracts International*, 1972, *32*[8-A], 4456.)

In this study tutors were fifth, sixth, and seventh graders in the top third of their classes in arithmetic ability. For 11 weeks they tutored same-grade peers who were in the bottom third of their classes in arithmetic ability. Control groups for both high- and low-achievers studied independently. No differences were found between experimental and control groups in arithmetic achievement or in personal and social adjustment. The author feels that the controls may have received extra help from the teachers during the experiment. He believes that although research on peer tutoring has been inconclusive, it is a method that can and should be used to individualize instruction.

Starlin, Clay. Peers and precision. *Teaching Exceptional Children*, 1971, *3*, 129-140.

To demonstrate the feasibility of peer teaching, the author had first graders use "precision teaching" techniques to teach their peers geometric figures. In this article he gives step-by-step procedures for setting up a peer tutoring project.

Swett, Manette. This year I got my buddy to laugh. *Childhood Education*, 1971, *48*, 17-20.

Part of the Program of Helping Relationships at P. K. Yonge Laboratory School (University of Florida) is a "buddy program" in which fourth graders are assigned to kindergartners as "big brothers and sisters" to teach and play with the younger children. The author feels the program is very successful and reports positive reactions of students but presents no data.

Thomas, Jerry L. Are elementary tutors as effective as older tutors in promoting reading gains? Unpublished doctoral dissertation, University of Texas, 1970. (See *Dissertation Abstracts International*, 1972, *32*[7-A], 3580.)

The author compared the methods and effectiveness of tutoring by sixth graders and by college students. Both groups tutored second graders, and

the tutoring sessions were videotaped for observation and analysis. Reading skills of the second graders were measured before and after tutoring. It was found that the college students were more effective in teaching vocabulary but that there were no differences on comprehension and oral reading performance. In general, the sixth graders taught as well as the adults when using more elementary materials. Observation of teaching style revealed that the child tutors were more direct, open, and visually oriented while the adults were more verbal, task oriented, and tended to push their students too far.

Towson, Shelagh M. J. *Tutor role enactment in the peer teaching dyad: The effects of tutor-initiated tutee evaluation and reward.* Technical Report No. 218. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1972.

This experiment investigated the effects of rewarding tutees and evaluating their performance on tutors' attitudes toward tutoring. Fifth-grade boys and girls tutored third graders by helping them with reading during 5 sessions. Tutors who rewarded and evaluated their tutees expressed less satisfaction with the experience than tutors who did not. The results are discussed in terms of the nature of the tutor role.

Wiles, Hilda. A multi-age team-teaching program. *Educational Leadership,* 1972, *29,* 305-308.

This article describes the Multi-Age Grouping to Individualize Instruction program at the University of Florida Laboratory School. Third, fourth, and fifth graders practiced peer teaching. Data were collected on self-concept, achievement, and teacher attitudes, but are not presented in this article.

Williams, Diane; Kabota, Gerald; Klentschy, Michael; and Michaud, Raymond. The effect of a summer school tutorial project on the sight word attainment of inner city first graders. Paper presented at the 51st Annual Meeting of the California Educational Research Association, San Jose, November 1972.

This study involved 120 pupils from an inner-city school. Tutors were 40 fifth graders from a remedial reading class. They tutored 40 first graders who needed individual help in basic reading skills and who scored below the 20th percentile on a standardized reading test. A control group of first graders was tested along with the tutored children but received regular classroom work only. Evaluation was based upon pretest and posttest word recognition scores. The tutored children showed significant gains over their pretest scores while controls did not. Also, the tutored children's posttest scores were significantly higher than those of the control children who were not tutored.

Wodarski, John S. Effects of different reinforcement contingencies on peer tutoring, study, disruptive and achievement behaviors: A study of behavior modification in a ghetto school. Unpublished doctoral dissertation, Washington University, 1970. (See *Dissertation Abstracts International,* 1971, *32*[2-A], 683.)

The author experimented with several reinforcement contingencies in a classroom: individual reinforcement, group reinforcement, and combinations

of individual and group reinforcement. Students' behavior was measured on a behavior rating scale. It was found that as the proportion of group reinforcement increased, so did the incidence of peer tutoring among students.

Wright, Elizabeth. Upper graders learn by teaching. *Instructor*, 1965, 75, 102-103.

A sibling type of relationship was set up between sixth graders and younger pupils. Anecdotal reports of benefits to both older children and younger children are included.

Wuycheck, Eileen. A comparison of trained students and nontrained students in reading achievement. Unpublished doctoral dissertation, University of Houston, 1971. (See *Dissertation Abstracts International*, 1972, *33* [2-A], 510.)

In this study of summer tutoring involving inner-city disadvantaged students, fifth-grade tutors showed significant gains in reading achievement while their third-grade tutees did not. The author recommends instituting a cross-age tutoring program during the year for the benefit of the older students.

Yamamoto, June Y.; and Klentschy, Michael P. An examination of intergrade tutoring experience on attitudinal development of inner city children. Paper presented at the 51st Annual Meeting of the California Educational Research Association, San Jose, November 1972.

The authors report a study of the effects of tutoring on attitudes of tutors toward self and school. A group of low-achieving fifth and sixth graders from an inner-city Los Angeles school tutored first-graders who needed help in reading. A second group received tutor training but did not tutor, and a control group was tested only. Those students who tutored had significantly more positive attitudes than the other students toward self and school. It was suggested that tutoring provides students with a sense of contributing and being useful to others.

Young, Carolyn. Team learning. *Arithmetic Teacher*, 1972, *19*, 630-634.

The author advocates pairing pupils by like ability to work together, grade their work, and take quizzes together. She states that they will learn from each other, reduce careless errors, work at their own rate, and have less test anxiety.

III

TUTORING BY JUNIOR AND SENIOR HIGH SCHOOL STUDENTS

Anderson, Hugh. Let youth tutor youth. *The Times Educational Supplement*, October 24, 1969, No. 2840, 37.

The author organized a community service volunteer program for Indian immigrant students in England. Students aged 9 to 18 tutored younger children aged 4 to 13 during the summer. The tutors had themselves recently learned English as a second language and gained practice as well as the satisfaction of helping others from the experience. The younger children benefitted from the experience of their tutors and from the close cultural and family ties they shared with the older children.

Anderson, Jean P. Reading and writing can be fun for the underachiever! *English Journal*, 1970, *59*, 1119-1121.

High school students from a high-income school in Spokane (mostly underachievers and potential dropouts) tutored elementary school children on a one-to-one or a one-to-two basis by reviewing literature and selecting books for the tutees, reading to them, and writing stories for them.

No data are given, but the author reports "significant gains in the basic skills," much positive feedback from the tutees and tutors, and a tendency for potential dropouts to stay in school.

Archibeque, Joe D. Utilizing the advanced Spanish student as a classroom tutor. *Hispania*, 1970, *53*, 70-72.

This article describes a program in which advanced students act as tutors in beginning Spanish classes. They receive credit for teaching small groups of students. The author stresses the importance of the tutors' maturity. The program provides responsibility for the tutors and the benefits of small group learning and individual attention for the tutees.

Baer, Constance J.; and Fisher, Linda R. Let me read: Five techniques that worked for us. *Journal of Reading*, 1972, *16*, 227-235.

This article includes a brief description of peer teaching on a group basis for peer readers and nonreaders in a San Diego junior high school.

Bailey, David. The effects of tutoring 1st, 2nd and 3rd grade tutees on the academic achievement, academic potential and self-concept of the 7th grade tutors. Unpublished doctoral dissertation, University of Virginia, 1972. (See *Dissertation Abstracts International*, 1972, *33*[7-A], 3248.)

This 2-week experiment investigated the effects of tutoring on 48 seventh graders who tutored in same-sex and cross-sex pairs. Tutoring

had a positive effect on measures of the tutors' achievement in paragraph meaning, spelling, and language and on parental approval and the tutors' self-esteem. Tutoring had no effect on tutors' arithmetic, verbal, quantitative, or academic potential scores.

Bean, Rita; and Luke, Catherine. As a teacher I've been learning. *Journal of Reading*, 1972, *16*, 128-132.

Thirteen high school students in a compensatory reading program tutored elementary school students who needed individual attention. Tutors had preparation for tutoring but no special training.

The program goals were to develop positive self-concept for tutors and increase their reading skill. Self-concept was measured by an original sentence completion test.

A preponderance of "self-actualizing" responses was found. There was no measure of reading ability.

Bell, Stanley E.; Garlock, Norene; and Colella, Sam L. Students as tutors: High schoolers and elementary pupils. *Clearing House*, 1969, *44*, 242-244.

High school student volunteers tutored underachieving elementary school children once a week. There was no objective evaluation, but teachers and parents of tutees reported improvements in performance and attitude, and tutors reported satisfaction and interest in teaching.

Brown, James C. Effects of token reinforcement administered by peer tutors on pupil reading achievement and tutor collateral behavior. Unpublished doctoral dissertation, Emory University, 1971. (See *Dissertation Abstracts International*, 1972, *32*[7-A], 3775.)

Black adolescents tutored black fourth graders in reading. A token reinforcement system produced significant improvement in the tutees' reading achievement scores and grades. Tutors had significantly better reading scores and teacher ratings of behavior than controls.

Burrow, Daniel A. Summer tutoring: An investigation of older volunteer students tutoring younger students in arithmetic computation. Unpublished doctoral dissertation, University of Maryland, 1970. (See *Dissertation Abstracts International*, 1970, *31*[5-A], 2244.)

In this controlled study sixth, seventh, and eighth graders were randomly matched with third, fourth, and fifth graders for 6 weeks of one-to-one tutoring in arithmetic; after each tutoring session, the tutor and tutee remained together for a free play period. The tutoring produced no significant effects on the tutors, but the arithmetic scores of the tutees improved significantly more than those of nontutored controls. Those children tutored by girls made greater gains than those tutored by boys.

Byrne, Katherine A. A cross-age study in elementary school science. Unpublished doctoral dissertation, Boston University, 1972. (See *Dissertation Abstracts International*, 1972, *33*[4-A], 1536.)

In this study 23 eighth graders were trained as pupil-teachers and taught

science to 127 sixth graders in small groups; the tutors used either discovery methods (doing experiments) or receptive methods (watching demonstrations). Controls worked with teachers. Pre- and posttests on science and reading ability were given to sixth graders; tests on attitude were given to tutors. It was concluded that students can learn science from other students as well as from adults and that both methods are effective. Tutors seemed to develop self-confidence and expertise in the subjects they taught.

Caditz, Rebecca. Using student tutors in high school math. *Chicago Schools Journal*, 1963, *44*, 323-325.

Ninth-grade students tutored peers who were failing in algebra. The tutors were not much better than the tutees in mathematics, but the performance of the tutees did improve. The benefits for the tutors are discussed, but no data are presented.

Cairns, George F., Jr. *Evaluation of the Youth-Tutor-Youth project*. Atlanta: Atlanta Public Schools, 1972. (ERIC No. ED 064 455)

This report describes the 1971 federal Youth Tutoring Youth project in Atlanta. High school students tutored elementary school students; the objectives were to provide a learning experience for tutors and tutees, improve tutors' self-image, stimulate interest in reading, and improve behavior and attitude toward school. Achievement scores are not reported, but tutors' attitude changes are discussed. Girls who tutored showed significant improvements in attitude, but boys who tutored did not.

Carroll, Mary H. Evaluation of the effectiveness of informed and uninformed tutors. Unpublished doctoral dissertation, University of Tennessee, 1972. (See *Dissertation Abstracts International*, 1973, *33*[8-A], 4050.)

In this 7-week study, high school students tutored third graders in reading. Half the tutors received training in developing "helping relationships" only; the other half were given special information on the reading deficits of their tutees. The tutees of the "informed" tutors did significantly better on two subtests of the reading measure, but results were not significant on other tests. The author suggests further research in this area.

Cloward, Robert D. Studies in tutoring. *Journal of Experimental Education*, 1967, *36*, 14-25.

This article reviews the results of the New York City Mobilization for Youth "Homework Helper" program and stresses the benefits for the tutor. Tutors were tenth and eleventh graders from low-income areas who were paid to tutor fourth- and fifth-grade low achievers in reading. After tutoring, significant differences in reading were found between experimental and control tutors and between experimental and control tutees.

Cohn, Maxine; and Kornelly, Donald. For better reading--a more positive self-image. *Elementary School Journal*, 1970, *70*, 199-201.

Five seventh graders who were reading below grade level in a heterogeneous class were assigned to individualized remedial programs/plans. As part of this program, each student was paired with a classmate tutor.

The tutor and tutee worked together on reading 20 minutes twice a week. Later in the program, slow readers began tutoring each other. "They enjoyed having the privilege and the responsibility of caring for the answer cards and scoring their classmates' progress sheets. These students were experiencing a pride in themselves--another step toward a positive self-image." Although no data are presented, the authors report that scores on the Stanford Achievement Test given 10 weeks into the program, showed "definite improvement in reading skills" over the previous year's scores.

Coker, Homer. An investigation of the effects of a cross-age tutorial program on achievement and attitudes of seventh-grade and eleventh-grade students. Unpublished doctoral dissertation, University of South Carolina, 1968. (See *Dissertation Abstracts International*, 1969, *29*[10-A], 3319.)

More than 250 black students engaged in cross-age tutoring in this study. After tutoring, girls showed more improvement than boys in science, social studies, and reading vocabulary. Boys showed greater improvement than girls in mathematics and reading comprehension.

Condra, Gary L. A study to determine the effectiveness of high school student tutors on the education of primary age children in target area schools and to study any similar effects upon the high school tutors. Unpublished doctoral dissertation, University of Kansas, 1970. (See *Dissertation Abstracts International*, 1971, *31*[12-A], 6296.)

In order to help former Head Start children in elementary school and provide "vocational offerings" for high school students, a tutoring study was set up in "target area" schools for one year. Nineteen sophomore and junior students tutored primary school students daily in language arts. Random sampling, primary and high school controls, and pretesting and posttesting were used. The only significant result was increased attendance for high school tutors; attendance of controls did not improve. Tutors and teachers agreed to continue the program the following year.

Crispin, David B. Learning under two different conditions. *Teachers College Journal*, 1966, *38*, 95-97.

The author describes an experiment in which tenth graders of varying ability levels were grouped heterogeneously and homogeneously and taught by high-achieving peers and a teacher. The greatest gains in scores on an English grammar test were made by low- and average-ability students grouped heterogeneously and taught by high-ability peers. Although there were qualitative differences among the several conditions, the author encourages the use of high-ability students to teach their peers in the classroom. The implications for the student as teacher and learner and recommendations for further research are discussed.

Dahlem, Glenn G. The high school student as elementary teacher aide. *School and Community*, *57*(3), 46.

This article offers suggestions to teachers on adjusting to heterogeneous-age group projects and utilizing adolescent teacher aides in the classroom.

David, Aranka I. Student tutoring: A success at Collingwood High School. *Clearing House*, 1938, *12*, 288-289.

This article offers an example of tutoring by students during the 1930's. High school students with grades of C or above volunteered to tutor other high school students who needed help. Tutoring lasted from 1 to 17 weeks. After six semesters it was found that half of those students who were tutored maintained their grades, one third raised them, and about 10 percent failed. The program was seen as a means of developing scholarship and leadership for the tutor as well as preventing failure for the tutee.

Davis, Ronald J. Student-to-student tutoring in selected English language skills at the Island Trees Jr. High School, Levittown, New York. Unpublished doctoral dissertation, St. John's University, 1967. (See *Dissertation Abstracts International*, 1968, *28*[11-A], 4404.) (ERIC No. ED 033 136)

High-achieving ninth-grade tutors and low-achieving ninth-grade tutees worked together in pairs for 30 weeks using prepared materials. Control pairs were similar to the experimental pairs and used the same materials but communicated in writing and never worked together face-to-face. Experimental tutors made significant gains in English grades, paragraph meaning scores, and spelling, but their tutees made no significant gains on any measures.

Dillner, Martha H. The effectiveness of a cross-age tutoring design in teaching remedial reading in the secondary schools. Unpublished doctoral dissertation, University of Florida, 1971. (See *Dissertation Abstracts International*, 1972, *32*[11-A], 6095.) (ERIC No. ED 066 731)

The subjects in this study were low-ability high school students who volunteered to serve as tutors for low-ability seventh and eighth graders. They tutored in reading every week for a year. It was expected that by being involved in a helping situation, the tutors would "improve their self-concept, expand their social relationships within the classroom, develop a more positive attitude toward school, and improve their reading skills." Although tutors gained significantly in many areas, on most measures they did not do significantly better than control subjects who did not tutor. Results did show a significant relationship between growth in reading and improvement in attitude toward school.

Edler, Lawrence A. The use of students as tutors in after school study centers. Unpublished doctoral dissertation, University of California at Berkeley, 1966. (See *Dissertation Abstracts International*, 1967, *28*[1-A], 74.)

The author studied the effects of tutoring on high school students who tutored elementary school children in an after-school program. Tutors were paid and worked on grammar, mathematics, and history with their tutees. On the basis of tests and interviews, it was concluded that the use of students as tutors is "educationally sound" and is particularly beneficial to older tutors. The results are discussed in terms of socioeconomic and ethnic differences among the students.

Eiseman, Jeffrey W.; and Lippitt, Peggy. *Olders-youngers project evaluation: Covering the first semester*. Ann Arbor: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, University of Michigan, 1966. (ERIC No. ED 056 924)

The authors conducted a demonstration project in three inner-city Detroit schools; elementary, junior, and senior high school students aided younger pupils with a number of academic, physical education, and arts and crafts activities. Teachers evaluated the benefits for their students. Among the effects of the project on younger students were improved academic performance, class participation, and study skills; improved behavior and attendance; and improved attitudes toward learning, receiving help, self, and others. No data are presented. Older students reported improved self-confidence and understanding of younger children. Teachers of elementary students who serve as aides did not feel that these students suffered from the lost class time.

Ellis, Dale. An analysis of achievement gains in math classes which result from the use of student tutors. Unpublished doctoral dissertation, University of Utah, 1971. (See *Dissertation Abstracts International*, 1971, *32*[4-A], 1976.)

Subjects in this study were students from high school mathematics classes. A group of students with grades above the median tutored students with grades below the median. The experimental subjects made significantly higher gains in mathematics scores than control subjects who did not participate in tutoring. Tutees made higher gains than tutors.

Erickson, Marilyn R.; and Cromack, Theodore. Evaluating a tutoring program. *Journal of Experimental Education*, 1972, *41*, 27-31.

This paper discusses the problem of evaluating tutoring research in which tutoring is provided to those most in need, rather than to purely randomly selected groups. Twelve underachieving seventh-grade boys tutored 12 underachieving third-grade boys, and the relative improvement patterns of both groups were compared to those of their classmates. Results of t-tests showed significant tutee improvement but no tutor improvement, yet Campbell's Regression Discontinuity Analysis did indicate significant gains for tutors, implying that Campbell's design can be a useful technique for investigation.

Floyd Municipal Schools. *Individualizing instruction using student tutors, Title III ESEA Project Report*. Floyd, N.M.: Floyd Municipal Schools, 1973.

A Title III project in Floyd, New Mexico, was established to provide materials and training for a city-wide tutoring project. Junior and senior high school student volunteers work on an individualized basis or in small groups with elementary school students; the students use multimedia learning packets for mathematics, language, and bilingual programs. A description of the program, including evaluation, is available from Gerry D. Washburn, Superintendent, Floyd Municipal Schools, Floyd, New Mexico 88118.

Fredicine, Anthony J.; and Kramer, Charles R. SIA. *School Counselor*, 1971, *19*, 133-135.

In the Students In Action program volunteer high school girls tutored seventh graders in remedial reading. There was minimum teacher involvement and supervision. Reactions of all involved were positive.

Goben, Ronald D. A school outside of school. *Southern Education Report*, 1967, *3*, 31-33.

This article describes a community-supported day school (supplementing regular public school) in which 120 teenagers taught 4- to 6-year-olds during the summer of 1967. No data are presented.

Goodman, Lillian. Tutoring for credit. *American Education*, 1971, *7*, 26-27.

In this program in San Francisco high school students tutored elementary school students for credit. Poor students were encouraged to participate. The article includes an anecdotal discussion of tutors' motivations and experiences in the program but presents no formal evaluation.

Haggerty, Maureen. The effects of being a tutor and being a counselee in a group on self-concept and achievement level of underachieving adolescent males. Unpublished doctoral dissertation, University of Pittsburgh, 1970. (See *Dissertation Abstracts International*, 1971, *31*[9-A], 4460.)

A group of underachieving high school boys with discipline problems volunteered to participate in this study. They were divided into four different treatment groups: controls had no treatment, one group received weekly group counseling, one group tutored elementary school students twice a week, and one group both tutored and received counseling. All groups were tested before and after treatment on self-concept and attitudes toward school. The control students showed no changes in self-concept or self-acceptance, but their grades and school attitudes deteriorated. The counseled group demonstrated improved self-acceptance, no changes in grades or self-concept, and poorer school attitudes. The two groups that tutored showed improved self-concept, self-acceptance, and grades but no changes in attitudes toward school.

Harrison, Morris G. A study to determine the effectiveness of student tutors in promoting achievement gain with slow-learning students in Related Math I. Unpublished doctoral dissertation, Texas Technical College, 1968. (See *Dissertation Abstracts International*, 1969, *29*[10-A], 3324.)

A group of elementary school students who needed help in mathematics volunteered to be tutored by high school students. The children were tested after 10, 25, and 50 hours of tutoring along with a comparison group that was not tutored. The tutored group had significantly higher scores after 10 hours of tutoring, but there were no differences after 50 hours.

Hartley, James; and Hogarth, Frank. Programmed learning in pairs. *Educational Research*, 1971, *13*, 130-134.

Eighty boys in an English secondary school were grouped into mixed-ability and like-ability pairs to work through a textbook together. No significant differences were found among performances of subjects in the groups. High-ability students preferred being paired with high-ability students rather than low-ability students.

Hassinger, Jack; and Via, Murray. How much does a tutor learn through teaching reading. *Journal of Secondary Education*, 1969, *44*, 42-44.

In this study 100 low-income high school students (low achievers and poor readers with poor attendance), dropouts, and unemployed graduates were employed for 6 weeks to tutor fourth, fifth, and sixth graders on a one-to-one basis. It was hypothesized that tutors would make greater gains in reading than the tutees, and they did. Positive attitude changes are discussed.

Hunt, Barbara B. Some effects of peer tutoring on self-esteem and racial attitude. Unpublished doctoral dissertation, University of Oregon, 1970. (See *Dissertation Abstracts International*, 1971, *32*[1-A], 92.)

In this study high school students were assigned to study hall twice a week and either engaged in peer tutoring in pairs or studied alone. There were no significant achievement gains from peer tutoring, and attitude changes were inconclusive.

Jenkins, Francis L. A beginning for student teachers. *Arithmetic Teacher*, 1967, *14*, 209-211.

Jenkins describes a program in Colorado in which high school students taught mathematics to fourth-grade and middle school students. The goal was to get high-achieving students (tutors) to develop mathematics lessons. There was tremendous enthusiasm on the part of tutors and good rapport between tutors and tutees.

Jones, Reginald L.; Marcotte, Marcia; and Markham, Karen. Modifying perceptions of trainable mental retardates. *Exceptional Children*, 1968, *34*, 309-315.

In an effort to explore methods of improving students' attitudes toward mentally retarded peers, fifth and sixth graders tutored retardates. A control group of nonparticipants was included in the study. After 5 months the tutors did have greater understanding and acceptance of the retarded than nontutors, but their understanding was still "deficient."

Knighton, Walter B. Help wanted--students may apply. *The Science Teacher*, 1970, *37*(9), 16-17.

The Summer Science Program in West Chester, Pennsylvania, provides laboratory experiences for students in third through sixth grade. Secondary students are used as teachers.

Kohler, Mary. Youth Tutoring Youth. *National Association of Secondary School Principals Bulletin*, 1969, *53*, 117-123.

The author, a juvenile court judge, gives a brief history of the Neighborhood Youth Corps's tutoring program. Conclusions from demonstration programs are included. This is a background paper with no data. (See the description of the Youth Tutoring Youth program in Section VIII.)

Landrum, John W.; and Martin, Mary D. When students teach others. *Educational Leadership*, 1970, *27*, 446-448.

Dropouts, and dropout-prone high school students with low income and low reading achievement tutored elementary school children as part of

an OEO Neighborhood Youth Corps summer program in Los Angeles County. Objectives were to improve tutors' reading achievement, attendance, and dropout rates and to improve tutees' reading achievement. Both tutors and tutees gained in reading. The data on tutors' attendance and dropout rates were incomplete, but it was "apparent" that both improved.

Lane, Patrick; Pollack, Cecelia; and Sher, Norman. Remotivation of disruptive adolescents. *Journal of Reading*, 1972, *15*, 351-354.

This article describes a demonstration project of a cross-age helping program. Eight "disruptive" eighth and ninth graders with "maladaptive behavior" were assigned to tutor poor-reading third and fourth graders for seven months in an effort to improve the tutors' self-image. Evaluation of reading scores showed tutees had a mean gain in reading of 14 months and the tutors had a mean gain of 19 months. Teachers reported positive changes in behavior.

The tutors' gains in reading were regarded as serendipitous; the authors concluded that the tutors had learned by teaching.

Le Boeuf, Flores. Qui docet discit--he who teaches, learns. *Science Teacher*, 1968, *35*, 53-56.

This article describes a program in which low-achieving junior high students taught second graders. The older children acted as "resource persons" in science lessons, rather than as tutors on a one-to-one basis. The program was designed to improve the behavior, learning, and motivation of the older students. The author, an eighth-grade teacher, discusses some attitude changes of the tutors as measured by the Thematic Apperception Test.

Levine, Richard H. Reaching out to Danny. *American Education*, 1970, *6*, 10-14.

One hundred high school students were paid to tutor elementary school students after school as part of a dropout-prevention program in Baltimore.

Linton, Thomas. The effects of grade displacement between student tutors and students tutored. Unpublished doctoral dissertation, University of Cincinnati, 1972. (See *Dissertation Abstracts International*, 1973, *33*[8-A], 4091.)

The author conducted a study to determine which students--eighth, tenth, or twelfth graders--would be most successful in tutoring eighth graders who were failing in mathematics. Tutors and tutees were volunteers, and all tutors had grades of A or B in mathematics. After 6 weeks of tutoring, it was found that the twelfth graders were most successful in tutoring the eighth graders and that improvements in mathematics scores for tutees were accompanied by improvements in science scores but not by improvements in social studies or language arts scores.

Luke, Sister Mary. Project tutoring--it worked! *Catholic School Journal*, 1966, *66*(4), 64-65.

Eighth-grade student volunteers tutored primary school children at home every day in mathematics, reading, and phonics. Tutors were trained

by teachers and used teacher-prepared materials. No data are presented, but tutored children showed improvement the following year, and the responses from all were positive.

Lundberg, Donald V. Some evaluations of tutoring by peers. *Journal of Secondary Education*, 1968, *43*, 99-103.

This article describes a one-semester controlled experiment in which 68 high school students tutored 78 peers on a one-to-one basis in foreign languages and mathematics. Tutors were free to use any teaching methods. After tutoring, significantly more tutored students than nontutored controls had grades of C or better. Sex of tutor made no difference, but male tutees showed greater improvement than female tutees.

Marascuilo, Leonard; Levin, Joel; and James, Herb. *Evaluation report for the Berkeley Unified School District's remedial reading program sponsored under SB 28*. Berkeley: University of California, 1969.

As part of a larger demonstration reading program, ninth-grade remedial readers tutored seventh-grade remedial readers in individual tutoring sessions in the tutees' school and homes. After tutoring, the seventh-grade tutees demonstrated greater gains than nontutored students in decoding and related reading skills, but their reading comprehension decreased. The ninth-grade tutors showed the inverse result--improved reading comprehension but no changes in decoding skills. Neither group showed changes in attitude. There were a number of components in this program, and no specific activity was identified as being responsible for the results.

Masterson, Sister Hannah M. Learning through teaching: The effects of arithmetic tutoring on high school tutors and their first-grade pupils. Unpublished doctoral dissertation, New York University, 1970. (See *Dissertation Abstracts International*, 1971, *31*[12-A], 6473.)

Volunteer senior high school girls tutored first graders in this 8-month study. The tutoring was found to have significant effects on the arithmetic skills of the first graders, but there were no differences in attitude, proficiency, or vocational interest between tutors and other students in their class who did not tutor.

Maurer, David C. Pair learning techniques in high school. *Phi Delta Kappan*, 1968, *49*, 609-610.

Maurer, the principal of a New York junior-senior high school, describes team learning techniques in use at his school. Students are paired to study, plan, discuss, and take tests together. The system consists of mutual teaching, motivation, and stimulation, and results in greater individualization.

McCracken, Robert A.; Leaf, Bernice; and Johnson, Laura. Individualizing reading with pupil-teachers. *Education*, 1965, *86*, 174-181.

The authors cite the one-room schoolhouse principle of cross-age helping. In their program seventh graders worked with second and third graders and wrote stories for them (the school couldn't afford new books). Tutors read to tutees, worked on reading, and kept logs of their progress. Every pupil improved in reading skills, but no data are given.

McWhorter, Kathleen; and Levy, Jean. The influence of a tutorial program upon tutors. *Journal of Reading*, 1971, *14*, 221-224.

This article describes a special college-preparatory program to improve the reading of high school graduates. For one semester, the students tutored first, second, and third graders having difficulties with reading. After the experience one group of tutors had an average gain in reading of 2.4 years (six times the normal expected gain) and a second group had an average gain of 1.1 years (three times the normal expected gain). The tutees in both groups had an average gain of 1.1 years (2.7 times the normal expected gain).

Mohan, Madan. Peer tutoring as a technique for teaching the unmotivated. Fredonia, New York: State University College, 1972. (ERIC No. ED 061 154)

Six seventh and eighth graders tutored 6 second and third graders in mathematics for 8 months. Control students worked on teacher-directed activities. After the tutoring period all students were scored on mathematics achievement, motivation as assessed by the teachers, motivation as assessed by the students, attitudes, and self-concept. It was found that students who tutored had significantly higher mean scores than controls on mathematics, motivation as assessed by teachers, and attitude. The tutees had significantly higher mean scores than controls on mathematics and motivation as assessed by students. The author suggests further research to investigate a number of factors related to peer tutoring.

Morgan, Robert F.; and Toy, Thomas B. Learning by teaching: A student-to-student compensatory tutoring program in a rural school system and its relevance to the educational cooperative. *Psychological Record*, 1970, *20*, 159-169.

In this study a group of students in eighth through twelfth grades volunteered to tutor students in second through fifth grades who were identified by their teachers as needing help in reading. Tutoring took place 3 times a week for 4 months, and all students (and controls) were pretested and posttested on reading, spelling, and arithmetic. The tutees made significant gains in all three subjects but did not do significantly better than controls who were not tutored. The tutors also made significant gains in reading, spelling, and arithmetic, but only in arithmetic did their gains exceed those of controls. The authors feel that the "striking achievement gains" of the tutors merit further exploration, and they propose that "children need the opportunity to teach in order to learn effectively."

Moskowitz, Harold. Boredom? No more! 7th graders try teaching. *Science and Children*, 1972, *10*, 14-15.

This article describes a tutoring program in which seventh graders taught science to kindergarten and first- and second-grade students, using Piaget's conservation of liquid tasks. The tutors prepared for teaching by learning teaching techniques and listening to tapes of younger students. Highly positive anecdotal responses, including increased interest of tutors in science and teaching, are reported. These interests were transferred to the home where the tutors worked with younger siblings.

National School Public Relations Association. How to push a good thing. *Audiovisual Instructor*, 1971, *16*, 61-63.

This article describes a Grove City, Ohio, Title III program in which teenagers are classroom aides at the kindergarten level. The target group in this study consisted of seventh graders. No evaluation data are discussed.

O'Bryan, Sharleen; Williams, Catharine; and Lowe, Jay. *Evaluation of the demonstration phase of the Teen Tutorial Program: A model of inter-relationships of seventh graders, kindergarten pupils, and parents to meet the developmental needs of disadvantaged children*. Grove City, Ohio: South-Western City School District, 1968. (ERIC No. ED 032 115)

This report describes and evaluates a program to help young disadvantaged adolescents develop an understanding of personal and family relationships as preparation for parenthood. Forty seventh graders tutored kindergartners and worked with their parents as part of a course in human relations and family living. A related report (Williams, Catharine M.; and Burnett, Collins W. The teen tutor and learning. [ERIC No. ED 036 484]) describes the program, participants, activities, results, and the plans for its future adaptation.

Office of Education. Pint-size tutors learn by teaching. *American Education*, 1967, *3*(3), 20, 29.

This article describes the interaction between children in a program in which sixth-grade "problem children" tutor first graders. No evaluation of the program is presented, but the article includes many personal reactions from the children involved.

O'Kane, William. Peer group presents value-oriented concepts. *The Science Teacher*, 1970, *37*(9), 18-19.

This article describes a program in which high school science club members present antismoking demonstrations to elementary school students in Quincy, Massachusetts.

Ontario-Montclair School District. *Final project report, cross-age teaching. #6f-06138-0*. Ontario, Calif.: Ontario-Montclair School District, 1971.

This is the final evaluation report on the Ontario-Montclair Cross-Age Teaching Project, a 3-year Title III program to improve the academic and social achievement of elementary school students through tutoring. Each year 120 fourth-, fifth-, and sixth-grade underachievers were tutored by seventh and eighth graders of all ability levels. The report presents the results of evaluation of the effects on students in the areas of academic achievement, self-concept, socialization, discipline, and attendance. It was found that both tutors and tutees showed significantly higher gains in reading, language, and mathematics than control groups. These results varied from year to year in areas showing most improvement and as to whether tutors or tutees benefitted more. The program did not raise Social Acceptability Scores. Attendance data were inconsistent but showed lower absenteeism in the third year for tutors and tutees than for controls. Results from measures of discipline problems were ambiguous. Teachers' opinions of the self-

concepts of the tutors (but not of tutees) were elevated. A self-reported measure of self-concept showed no improvement for tutors or tutees, and the tutors' scores were significantly worse than those of controls in the third year. Results from the second year of the program often contradicted those from the first and third years. The report, a cross-age tutoring manual, and information about the program are available from John Mainiero, Program Coordinator, Ontario-Montclair School District, 950 West D Street, Ontario, California 91764.

Pfeil, Mary P. Everybody's somebody. *American Education,* 1969, 5, 21-24.

Institutionalized teenagers (delinquent, abandoned, etc.) tutored institutionalized younger children in a paid 6-week tutorial program. The children chose their own tutors; surprisingly, many chose tutors of a different race. There were excellent results in terms of tutors' attitudes and behavior. Analysis of test results was in progress when the article was written.

Pope, Lillie; and Crump, Ruth. School dropouts as assistant teachers. *Young Children,* 1965, *21,* 13-23.

The JOIN (Job Orientation in Neighborhoods) Program of New York City is an effort to rehabilitate high school dropouts under 21 years of age. Dropouts having at least seventh-grade reading skills acted as teaching assistants in Head Start preschool classes.

Porter, E. Jane. Project Promise: Recruiting high school students for teaching in city schools. *Elementary English,* 1971, *48,* 336-340.

The purposes of this program were "recruitment of black high school students who might be interested in teaching as a profession and improvement of reading achievement and increased interest in reading of middle grade students from the inner city." The high school students worked with the children on reading for 20 weeks. The most positive responses on an attitude scale administered to tutors related to their improved self-concept.

Raushenbush, John. The student as teacher. *Independent School Bulletin,* 1967, *27,* 35-36.

As part of a larger "preparing to teach" program at a Colorado school, eleventh- and twelfth-grade boys tutored elementary school children and participated in other teaching activities. These students felt that they learned material better by teaching and that they gained confidence and personal satisfaction from the experience.

Rich, Leslie. The magic ingredient of volunteerism. *American Education,* 1973.

This article discusses volunteer programs for youth, particularly the Youth Tutoring Youth program. It focuses on the background and organization of these programs and on the opinions of San Francisco Juvenile Court Judge Mary Kohler. The main points of the article are that teenagers are an important resource and that their talents and idealism should be tapped for their own benefit and for that of the entire community.

Rollins, Howard. *Evaluation of the Youth-Tutoring-Youth project, summer, 1970.* Atlanta: Atlanta Public Schools, 1970. (ERIC No. ED 055 149)

The Youth Tutoring Youth program in Atlanta sponsored tutoring of elementary school pupils by underachieving high school students as a means of improving the academic achievement and attitudes of the older students. This report describes the plan, goals, and evaluation of the program. The program was found to have produced little noticeable effect on the reading skills of the younger children. Tutors, however, demonstrated improved confidence in themselves and their academic work; this effect was more pronounced for boys than for girls. (See the description of the Youth Tutoring Youth program in Section VIII of this bibliography.)

Rossi, Timothy P. HELP: Students teach students. *Reading Improvement*, 1969, *6*(2), 47-49.

This article is an examination of the HELP program of Jersey City, New Jersey, in which high school students acted as reading teachers for disadvantaged elementary school students. The author concludes that both student teachers and learners benefitted from the experience.

Schubert, Leo. Project Interface--motivation for the brightest. *The Science Teacher*, 1970, *37*(9), 15-16.

Project Interface is an American University program at two private Washington, D.C., schools. It provides continuing motivation for advanced high school students and improved science instruction in the elementary schools. The high school students are trained in COPES, a science program, and in the principles of educational psychology. They work with elementary school students under the supervision of teachers. The program has been very successful and will be expanded.

Stander, Aaron C., Jr. Peer-teaching and reading achievement of seventh and eighth grade students. Unpublished doctoral dissertation, University of Michigan, 1972. (See *Dissertation Abstracts International*, 1973, *33*[11-A], 6079.)

This study compared peer teaching and remedial reading instruction by teachers. Seventh- and eighth-grade remedial reading students were taught either by peers or by teachers for a period of 4 months. Students who were tutored by peers made significant gains in reading achievement compared with controls. Student tutors did not make significantly greater gains in reading than controls but did show a significant decrease in absenteeism.

Summer crash tutorial program, 1968. Los Angeles: Crenshaw Community Youth Study Association, 1968. (ERIC No. ED 029 766)

A group of high school students with low reading achievement tutored students in third through sixth grades in reading. The tutors were trained for 12 hours in phonics and teaching techniques. After the tutoring, tutors showed an average gain in reading achievement of 0.8 years, and tutees showed an average gain of 1 year. Included in this report are tutors' reactions to the program and a summary of related studies.

Van Wessem, Katherine. *A tutoring program: The second year.* Central Midwestern Regional Educational Laboratory, 1968. St. Ann, Mo. (ERIC No. ED 035 139)

In an effort to reinforce learning and "offset the stigma of relearning basic skills," underachieving junior high school students tutored younger students in a variety of skills. No data are presented, but a general evaluation of the program indicated that it was successful and that tutors and tutees received many benefits. Tutors had an opportunity to practice their skills, improve their self-image by helping, and develop social and communication skills. Tutees benefited from individualized instruction and from having an older child as a model.

Vassallo, Wanda. Learning by teaching. *American Education,* 1973, *9,* 25-28.

This article is an anecdotal discussion of the many social and academic benefits of students tutoring each other. This program started at a Dallas high school with honor society students helping others; expanded to become school-wide with 1,000 tutors; and was later made into a district-wide program with cross-age tutoring. The tutoring was seen as mutually beneficial to tutor and tutee.

Vaughan, Mark. Each one teach one. *The Times Educational Supplement,* April 7, 1972, No. 2968, 9.

The program described in this article provides secondary school tutors for "backward" readers in British schools. The emphasis is on building personal relationships between tutors and tutees, and many students who would otherwise not receive remedial help are learning to read.

Walker, George. Sixth form tutors. *The Times Educational Supplement,* October 23, 1970, No. 2892, 26.

The York University Summer Language School in England provides instruction in English for immigrant children by using native English-speaking secondary school students as tutors. The tutors are trained by professional educators, and it is felt that they benefit from the program as much as their tutees.

Weitzman, David L. Effect of tutoring on performance and motivation ratings in secondary school students. *California Journal of Educational Research,* 1965, *16,* 108-115.

In this study high school students volunteered to be tutored by upperclassmen from the same school for a period of 4 months. Matched controls were not tutored. The tutored students showed greater improvements than controls in motivation, performance, and study habits as determined by teacher judgments, but they did not show greater improvement on classroom tests. The performance of the students who were not tutored declined, suggesting that the tutored students were better able to keep up as the material became more difficult during the course of the semester.

Werth, Trostel G. An assessment of the reciprocal effects of high school senior low achievers tutoring freshmen low achievers in English class. Unpublished doctoral dissertation, Oregon State University, 1968. (See *Dissertation Abstracts International*, 1968, *29*[4-A], 1057.)

In this study 32 high-achieving high school seniors tutored 32 low-achieving high school freshmen; 64 control freshmen received no tutoring. Tutored freshmen showed significantly greater improvements than controls in reading comprehension, and both tutors and tutees demonstrated significant increases in interest in English. There were no significant differences in language usage or spelling skills. The experiment suggested further research on the effects of being a tutor on the self-image of a low achiever.

Wing, Charles J. The effects of a "Youth Tutoring Youth" program on potential dropouts. Unpublished doctoral dissertation, University of Wyoming, 1972. (See *Dissertation Abstracts International*, 1972, *33*[4-A], 1452.)

The author investigated the effects of tutoring elementary school students on the grades and attendance of 75 high school students. After tutoring the students had significantly better grade averages and attendance records than a control group of students who did not tutor.

Wittmer, Joe. The effects of counseling and tutoring on the attitudes and achievement of seventh grade underachievers. *School Counselor*, 1969, *16*, 287-290.

In this study 18 underachieving seventh graders were tutored by ninth graders who were "academically gifted and somewhat socially introverted." Data gathered were grade point averages and teachers' ratings of the tutees' attitudes. At the end of the program, 15 of the 18 tutees had significantly improved attitude ratings and the group's mean grade average was significantly improved. There was no objective evaluation of the tutors.

IV

TUTORING BY TEACHERS AND COLLEGE STUDENTS AND TUTORING AS PART OF TEACHER TRAINING

Baun, Eugene L. The Washington University Campus Y tutoring project. *Peabody Journal of Education*, 1965, *43*, 161-168.

In the Kinloch Tutoring Program at Washington University, college students tutored black high school students in reading to provide academic and social help and to promote "human understanding" between the tutors and tutees. Students who were tutored showed significantly higher achievement than students who were not tutored, and teachers reported that the greatest advantage of the experience was increased motivation among tutees.

Bausell, R. Barker; Moody, William B.; and Walzl, F. Neil. A factorial study of tutoring versus classroom instruction. *American Educational Research Journal*, 1972, *9*, 592-597.

This study compared the effects of tutoring by college students with the effects of regular classroom instruction on fourth and fifth graders. It controlled for the ability of students, training of teachers, and total instructional time. Tutoring produced significantly greater achievement than classroom instruction.

Block, Elaine C.; and Lieberman, Janet. Tutoring experiences in teacher education. *Education*, 1967, *88*(1), 78-81.

The authors describe a program in which elementary education students at Hunter College tutored elementary school students for 8 weeks. No data are presented, but on the basis of the tutors' self-evaluations it was felt that the children improved in reading skills and self-concept and that the tutors became more sensitive to the problems and needs of the children.

Bouchillon, Pat; and Bouchillon, Bill. Students learn by tutoring. *Contemporary Education*, 1972, *43*, 281-283.

College educational psychology students tutored elementary school children as an experiment in individualized instruction and the one-to-one relationship with a student. The article discusses their reactions to and evaluations of the experience.

Chesler, Mark. Tutors for disadvantaged youth. *Educational Leadership*, 1965, *22*, 559-561.

The author discusses the trend of the 1960's toward programs in which middle class college students tutored "disadvantaged" children of the city ghetto. He describes the effects of these programs on both groups.

Costello, Joan; and Martin, Jacqueline. One teacher--one child, learning together. *Elementary School Journal*, 1972, *73*, 72-78.

This article describes several programs of one-to-one tutoring between teachers and withdrawn, inhibited children. Advantages for both child and teacher are discussed.

Glatter, Andrew N. Significant variables of short-term tutoring. Unpublished doctoral dissertation, Wayne State University, 1967. (See *Dissertation Abstracts International*, 1968, *29*[1-A], 146.)

In this study 40 college juniors and seniors in education tutored 40 inner-city fifth and sixth graders; there were also 21 controls from the same school. Comparisons of pretest and posttest scores showed significant improvements for experimental subjects in arithmetic achievement and word knowledge. Measures of changes in attitude and self-concept gave "mixed" results. "Becoming more realistic and reality-oriented seems to have worked against pupils being able to show significant changes in attitude toward school. Ten weeks [was] considered too short a time period to bring about measurable changes in self-concept."

Gordon, Ira; Curran, Robert L.; and Avila, Donald L. *An inter-disciplinary approach to improving the development of culturally disadvantaged children*. Gainesville: University of Florida, 1966.

This study evaluated a tutorial program used at three Florida schools. University education students tutored elementary and junior high school students with learning difficulties on a one-to-one basis once a week for a year. The objectives were to improve the children's attitudes toward teachers and school, their self-concept, and their physical health. The authors do not feel that the program achieved these objectives; they feel that focusing on skills is more effective than a child-centered approach.

Harmon, Judson A.; and Ingle, Robert. A comparison of attitude changes by education juniors after tutoring in urban and suburban secondary schools. *Educational Leadership*, 1970, *28*, 181-184.

Education juniors were given the Minnesota Teacher Attitude Inventory (MTAI) before and after a semester of tutoring either in inner-city or suburban Milwaukee schools, to assess attitudes toward children. Tutors in both types of schools made attitude gains after tutoring although greater gains were made by urban tutors. The permissiveness of classrooms and amount of contact with regular teachers were seen as important factors.

Harris, Phillip L. Experimental comparison of two methods of tutoring--programmed vs. directed. Unpublished doctoral dissertation, Indiana University, 1967. (See *Dissertation Abstracts International*, 1968, *28*[8-A], 3072.

This study investigated the effects of both programmed and directed individual tutoring by teachers on 204 first graders from 10 different schools. Matched controls were included. Students receiving tutoring had significantly higher reading achievement scores than those not being tutored. The programmed tutoring method produced significantly higher scores than the directed method. There were no differences due to the number of tutoring sessions daily.

Hunter, Elizabeth. A cross-age tutoring program encourages the study of teaching in a college methods course. *Journal of Teacher Education*, 1968, *19*, 447-451.

In this study 31 Hunter College education students tutored fifth and sixth graders and also trained them to tutor second and third graders. The Hunter students then observed the cross-age tutoring and criticized the teaching techniques of the fifth and sixth graders. Herbert Thelen of the University of Chicago suggests that in the future, the college students should stress tutor training more and that the tutors should seek teaching advice from their own teachers.

Ingle, Robert B.; and Zaret, Esther. A comparison of classroom observations and tutorial experiences in the preparation of secondary school teachers. *Educational Leadership*, 1968, *26*, 164-168.

In this study 92 juniors in education at the University of Wisconsin--Milwaukee either tutored or observed in seventh- through twelfth-grade classes in inner-city schools for one semester. The authors hypothesized that tutorial experience coupled with college study would produce greater positive gains in attitude toward children as well as greater gains in knowledge about children than would classroom observation plus college study. The results, however, revealed that observation produced significant improvements in attitude while tutoring did not.

Klein, Stephen P.; and Niedermeyer, Fred C. Direction sports: A tutorial program for elementary-school pupils. *Elementary School Journal*, 1971, *72*, 53-61.

The authors describe an after-school program for 11- and 12-year-old inner-city Los Angeles boys that teaches academic skills through "chalk talks" and sports activities. Minority group college students serve as coaches. A pilot study showed significant improvements in arithmetic and spelling skills as well as in self-concept and motivation.

Klosterman, Sister Rita. The effectiveness of a diagnostically structured reading program. *Reading Teacher*, 1970, *24*, 159-162.

This experiment studied the benefits of a diagnostically structured tutoring program in reading. Randomly selected fourth graders were tutored either individually or in small groups by college elementary education students. Controls remained in their classrooms. The tutoring was part of a college course, and tutors were trained for 1 month. Students who were tutored, regardless of whether individually or in groups, made significantly greater gains in reading achievement than controls.

Levine, Murray. Student teachers as tutors for children in an inner city school. *Child Psychiatry & Human Development*, 1970, *1*, 50-56.

Twenty-five student teachers tutored 25 inner-city first graders. Tutoring had no effect on the children's performance on the Illinois Test of Psycholinguistic Ability, but there were many positive results: tutored pupils were in the highest reading group and were rated as more competent, more confident, and having more positive attitudes toward school than controls.

Marso, R. N. Help a school child project: Tutoring experiences in the undergraduate educational psychology course. *Journal of Experimental Education*, 1971, *40*, 67-73.

This study investigated how tutoring compared with traditional methods in teaching educational psychology to undergraduate college students. A group of students at Bowling Green State University tutored primary school children for 1 semester using success-oriented methods. The emphasis was on improving the children's attitudes toward school and learning. A control group of college students with comparable abilities and the same text and instructor did not tutor. At the end of the program there were no differences between the groups in teacher attitudes or examination scores. However, it was felt that the program was feasible and had benefits.

McMonagle, Lily. An investigation of attitude change in college tutors toward black children as a function of required tutoring. Unpublished doctoral dissertation, Temple University, 1972. (See *Dissertation Abstracts International*, 1972, *33*[4-A], 1521.)

This study used the semantic differential to assess the attitudes of college students toward black children. There were no differences between those students who tutored and those who did not. The degree of attitude change was not affected by length of tutoring or the pupil-tutor ratio. There was a low positive correlation between attitudes and perceived success in tutoring.

Nichols, William. A study of the effects of tutoring on the self-concept, reading achievement and selected attitudes of culturally disadvantaged children. Unpublished doctoral dissertation, Ball State University, 1968. (See *Dissertation Abstracts International*, 1969, *29*[9-A], 2898.)

In this study a group of fourth, fifth, and sixth graders from 3 different schools were tutored weekly by university students. Although pre- and posttests indicated no changes in reading comprehension, vocabulary, or self-concept, the children who were tutored scored significantly higher than controls on 3 factors: creative or free expression, recreational activities, and adult and peer interactions. The children's teachers felt that more than half of the tutored students had improved in attitude, achievement, or self-concept after tutoring.

Pellegrini, Robert; and Hicks, Robert. Prophecy effects and tutorial instruction for the disadvantaged child. *American Educational Research Journal*, 1972, *9*, 413-418.

The authors investigated the "prophecy effect," or the extent to which the teacher's expectations affect the achievement of students in a tutorial situation. College students tutored a group of 9-year-olds referred to the SHARE remedial reading program in Santa Clara, California. The majority of the children were Mexican-Americans from low-income families. Tutors were given varying expectations as to the IQ and ability of their tutees at the start of the 17-week tutoring period, but their expectations were not found to affect the scores of the tutees on posttests.

Zach, Lillian; Horner, Vivian; and Kaufman, Judith. Tutoring in a slum school. *Elementary School Journal*, 1969, *70*, 20-27.

In this study of motivation in school learning, systematic versus nonsystematic reinforcement, and individual tutoring versus none, 30 "socially disadvantaged" fourth graders were tutored in arithmetic for 6 months by graduate students in educational psychology. Thirty controls received no tutoring. One group of tutored students received planned, systematic material reinforcement, and the other group received spontaneous, unplanned verbal reinforcement. After 6 months the students who were tutored showed significantly greater gains in arithmetic concepts (but not in computation skills) than students who were not tutored. The two methods of reinforcement did not result in any significant differences.

V

TUTORING BY PARENTS AND OTHER PARAPROFESSIONALS

Cowen, Emory. Mothers in the classroom. *Psychology Today*, 1969, *3*(7), 36-39.

Cowen describes a program in Rochester, New York, in which paid nonprofessionals are used as aides in elementary schools. This is a preventive mental health program. The goal is early detection and treatment of emotional problems through the use of nonprofessionals in therapeutic roles. No data are reported.

Cramer, Ward. My mom can teach reading too! *Elementary School Journal*, 1971, *72*, 72-75.

This article describes the Indiana University Programmed Tutorial Reading Project used in Dayton, Ohio, schools. Students were beginning first graders who scored low on a reading readiness test. A control group participated in the basal reading program only, while the experimental group received supplementary programmed tutoring from nonprofessional teacher aides. At the end of the year the experimental group scored significantly higher than the control group on word knowledge and reading comprehension.

Criscuolo, Nicholas P. How to help tutors help you. *School Management*, 1972, *16*(10), 38.

The reading supervisor of the New Haven (Connecticut) Public Schools offers suggestions for adult tutors drawn from his experience in directing volunteer women. He advocates brief, informal orientation periods, coordination with reading specialists, and goal-setting activities in each tutoring session. He feels there should be a special place for tutoring, materials for tutoring separate from regular classroom materials, and discussions between tutors and teachers. He discourages giving children's grades on tutored work to their teachers.

Ellson, Douglas G.; Barber, Larry; Engle, T. L.; and Kampwerth, Leonard. Programed tutoring: A teaching aid and a research tool. *Reading Research Quarterly*, 1965, *1*, 71-127.

This article presents reports on a series of experiments with programmed tutoring in beginning reading. The focus of these experiments was on the materials rather than on the tutor; tutors were paraprofessionals trained to work with children using programmed materials, with an emphasis on instruction and not on the tutor-tutee relationship. Tutors were nonprofessional adults in all studies except one in which retarded children tutored. The authors conclude that programmed tutoring is "most successful when used as a supplement to and coordinated with regular classroom teaching. Used this way, it produced significant improvement on standard tests which required sight-reading, comprehension, and word analysis."

Ellson, Douglas G.; Harris, Phillip; and Barber, Larry. A field test of programmed and directed tutoring. *Reading Research Quarterly*, 1968, *3*, 307-367.

This study compared programmed and directed tutoring, using 1 or 2 daily tutoring sessions as a supplement to classroom teaching of beginning reading. The study lasted 28 weeks and involved 240 inner-city first graders and matched controls who received no tutoring. The programmed tutoring method was a *highly structured, individualized* technique. The directed method was based on traditional teaching techniques; activities were determined by the tutor. After a year of tutoring no significant effects on reading achievement were found for children tutored with the directed method or for those tutored only once a day with the programmed method. However, significant improvements were noted for those students tutored twice daily with the programmed tutoring method, and poor readers received the greatest benefit. (See also Ellson in Section VIII of this bibliography.)

Gomberg, Adeline S. Can disadvantaged parents motivate children for reading? *Teachers College Record*, 1970, *71*, 451-454.

In a Philadelphia program to support Head Start, parents were trained to tutor their children in reading. The article gives details of the methods used and the reactions of the parents.

Keele, Reba L.; and Harrison, Grant von. The effect of parents using structured tutoring techniques in teaching their children to read. Paper presented at the meeting of the California Educational Research Association, New York, February 1971. (ERIC No. ED 051 967)

This study examined the effects of tutoring kindergartners and first graders in naming letters, sounding letters, and decoding nonsense words. The children were tutored by either their parents or high school students and were tested after 6 weeks. Tutoring was supervised, but the only specific training tutors received was in using a specially prepared manual. The tutored students had significantly higher mean scores than nontutored controls for sounding and decoding skills, but their mean scores for naming letters were not significantly higher. Parents and high school students were equally successful as tutors.

Lempert, Henrietta. Volunteers as tutors of exceptional children. *Psychology in the Schools*, 1971, *8*, 129-134.

This article describes a Learning Clinic pilot study in which parents in poor neighborhoods acted as volunteer tutors. They were trained to adapt their teaching to the individualized requirements of the children. "Progress" and "positive personality and behavior changes" are reported, but no data are given.

McCleary, Emily K. Report of results of tutorial reading project. *Reading Teacher*, 1971, *24*, 556-559.

Ellson's Programmed Tutoring model was used for one year in elementary schools in North Carolina. The experimental students were tutored every day on a one-to-one basis as a supplement to their regular classroom work. An equal number of control students received only the regular classroom work. At the end of the program the experimental subjects had

significantly higher mean reading achievement scores than controls. (See also Ellson in Section VIII of this bibliography.)

Meyers, Perry C. Effects of tutorial relationships on adjustment of 5th grade pupils. Unpublished doctoral dissertation, Illinois Institute of Technology, 1971. (See *Dissertation Abstracts International*, 1972, *33*[3-B], 1272.)

Adult volunteers tutored fifth graders who had been referred by their teachers. Controls were randomly selected. Tutoring took place twice a week for 10 weeks. There were no major significant results, but the tutoring program was seen as beneficial and worthwhile. The attitudes under consideration were seen as "resistant to change" and requiring "a protracted time period to modify." There was a significant positive correlation between the children's changes in self-concept and the degree to which they felt the tutoring relationship was helpful.

Niedermeyer, Fred C. Parents teach kindergarten reading at home. *Elementary School Journal*, 1970, *70*, 438-445.

This study investigated the effects of parent-monitored practice at home on pupil performance in reading. The SWRL kindergarten reading curriculum was used. After one semester experimental subjects scored significantly higher on the reading posttest than controls.

Olsen, Clarence R. The effects of enrichment tutoring upon self-concept, educational achievement, and measured intelligence of male underachievers in an inner-city elementary school. Unpublished doctoral dissertation, Michigan State University, 1969. (See *Dissertation Abstracts International*, 1969, *30*[6-A], 2404.)

In this study 30 underachieving second-, third-, and fourth-grade boys received enrichment tutoring by volunteer adults; 30 similar boys served as control students. Both groups were scored before and after the tutoring on self-concept, achievement, and IQ. In general, results from the major tests showed no significant differences between tutored children and controls, but the tutored children did excel on some subtests of achievement and self-concept. Teachers reported that participating pupils had improved study habits, grades, reading, and self-confidence.

Orhan, Shije; and Radin, Norma. Teaching mothers to teach: A home counseling program for low-income parents. *The Family Coordinator*, 1969, *18*, 326-331.

An educator and a social worker describe a method of training and counseling parents to tutor their children at home. Parents are taught how to motivate children and evaluate their progress. Pairing of parents and the use of paraprofessional counselors are suggested.

Regal, Jacob M.; and Elliott, Raymond N. Special program for special education. *Exceptional Children*, 1971, *38*, 67-68.

The authors investigated the effects of parent tutoring on normal and emotionally disturbed third-grade children from affluent and low-income areas. The Stanford Achievement Test was given as a pretest and a

posttest; results showed that parental tutoring had highly significant effects and was of particular benefit to children with special educational problems.

Richardson, Ellis; and Collier, Lucy. Programmed tutoring of decoding skills with 3rd and 5th grade non-readers. *Journal of Experimental Education*, 1971, *39*, 57-64.

In this study 12 fifth-grade nonreaders were tutored by adults for 43 sessions. Posttest results showed that the children could apply decoding skills to new material. The authors feel that so-called dyslexic children can learn basic reading skills with this method, and they attribute success to a highly structured, programmed approach.

Ronshausen, Nina L. A comparison of the effects on achievement and attitude of two methods of tutoring first-grade math in the inner city: Programmed vs. directed. Unpublished doctoral dissertation, Indiana University, 1971. (See *Dissertation Abstracts International*, 1972, *32*[8-A], 4494.)

Ronshausen compared Ellson's Programmed Tutoring method with a directed tutoring method in an 8-month study involving first graders. Tutors were adult paraprofessionals. A control group of first graders received regular classroom instruction only, while the experimental groups received tutoring in addition to classroom work. Results indicated that directed tutoring plus classroom work was more effective in improving computation skills than regular classroom instruction alone or programmed tutoring in addition to regular classroom work. It was not more effective in improving mathematics concepts. The value of programmed tutoring could not be determined from the results. (See also Ellson in Section VIII of this bibliography.)

Schoeller, Arthur; and Pearson, David A. Better reading through volunteer reading tutors. *The Reading Teacher*, 1970, *23*, 625-636.

The author discusses the Volunteer Reading Tutoring Program in Milwaukee, Wisconsin, in which adult volunteer tutors worked with children referred from their schools at neighborhood tutoring centers. An evaluation of 115 participating students showed that their average gains on 7 reading skills were significantly greater than could be expected for the time period involved. A subjective evaluation of attitude changes suggested that tutored pupils improved in self-concept, work habits, attitudes toward school and teachers, library usage, and enjoyment of reading.

Shaver, James P.; and Nuhn, Dee. Underachievers in reading and writing respond to a tutoring program. *Clearing House*, 1968, *43*, 236-239.

The authors describe a tutoring program in which underachieving fourth, seventh, and tenth graders in two school systems in Utah were tutored by educated community women and university students described as "untapped wealth." Significant results in favor of tutored students were obtained after a year and a half. No evidence was found to indicate that one-to-one tutoring was more effective than one-to-three tutoring.

Tannenbaum, Abraham J. An evaluation of STAR: A non-professional tutoring program. *Teacher's College Record*, 1968, *69*, 433-448.

Tannenbaum describes a remedial reading program for first graders in which ghetto parents were taught to tutor their own children. Children being tutored by parents were compared with controls and with those receiving remedial help at a reading clinic. The author concludes from an analysis of scores on a battery of tests that the STAR program did produce consistently higher levels of "school readiness" than the other condition, but he was conservative about these claims because of the short duration of the program, small sample size, and other factors. A "spillover effect" was noted but not measured: siblings of the target children and children of the aides who taught parents were often exposed to the lessons.

White, Jean. The programed tutor. *American Education*, 1971, *7*(10), 18-21.

This article describes the Programed Tutorial Reading Project in Indianapolis, which is based on Ellson's highly structured, individualized method of tutoring by paraprofessional adults and teenagers. The program has been field tested in a number of cities, and several tutoring packages have been developed to accompany published reading programs. White describes the sequence of instructional steps used in the programmed method. (See also Ellson in Section VIII of this bibliography.)

Worl, Milton. An investigation of two tutoring approaches and the resultant effects on students' achievement in reading. Unpublished doctoral dissertation, University of Rochester, 1973. (See *Dissertation Abstracts International*, 1973, *34*[5-A], 2319.)

Three groups of inner-city elementary school children who had been referred by teachers to a tutoring program participated in an 8-week study. One group was tutored by adults trained by professional reading teachers. Tutors for the second group were trained in building a helping relationship and improving self-esteem. The third group received no special help. There were no significant differences among the groups' posttest achievement scores. The author questions the effectiveness of tutoring programs in this context. He suggests further studies with more adequately trained tutors, better control over tutoring activities, and more discriminating evaluation instruments.

VI

PEER AND CROSS-AGE TUTORING IN THE NONGRADED SETTING, THE BRITISH INFANT SCHOOL, AND ONE-TEACHER SCHOOLS AND HISTORICAL DISCUSSIONS OF PEER TUTORING

Carlson, Wesley H.. Interage grouping. *Educational Leadership*, 1958, *15*, 363-368.

The author discusses the advantages of interage grouping for a child's social and cognitive development. One advantage is the opportunity to help other children.

Estes, L. Gene. Grouping should not label children. *School and Community*, 1972, *59*, 5.

The author discusses the use of peer tutoring as part of a grouping scheme to foster "cooperative and constructive" rather than competitive and destructive relationships.

Gordon, Julia W. *My country school diary*. (2nd ed.) New York: Dell, 1970.

This personal account of the author's experiences in a rural school in New Jersey is written from a very personal standpoint, and follows the progress from year to year of her own attitudes and that of individual students. She used older students to read to younger students and to work with them on music, drama, and story-telling. The book includes very specific daily schedules and descriptions of each child's activities. The introduction is by John Holt.

Hamilton, Warren; and Rehwoldt, Walter. By their differences they learn. *National Elementary Principal*, 1957, *37*, 27-29.

This article describes the findings of a controlled study in which the authors compared multi-grade class groupings with single-grade groupings. The multi-grade situation was observed to promote higher academic achievement, greater personal and social adjustment, and more positive attitudes toward school. Parents, teachers, and administrators in the school where the study was conducted generally agreed that the multi-grade pattern was more beneficial than the single-grade system.

Horst, H. M. History of student tutoring at West High School, Akron, Ohio. *Clearing House*, 1931, *6*, 245-249.

Horst describes a system of student tutoring during the 1920's in which "better" students tutored those who needed help under the supervision of senior students. There were marked improvements in tutees' grades after tutoring, and the results seemed to carry over to later semesters although the data are not treated statistically. The special ability of students to help other students is discussed.

Hull, Bill. *Leicestershire revisited.* Newton, Mass.: Educational Development Center, 1970.

This Occasional Paper from the Early Childhood Education Study is based on the author's observations in the Leicestershire, England, schools. He discusses cross-age interactions and the results of vertical or "family" grouping, observing that the children's long tenure in one class with the same teacher creates a kind of subculture; older students help newcomers to assimilate this culture and also carry it home with them to younger siblings.

Lancaster, J. *Improvements in education as it respects the industrious classes of the community: Containing, a short account of its present state, hints towards its improvement, and a detail of some practical experiments conducive to that end.* London: Darton and Harvey, 1803.

In addition to the topics suggested in the title, the author discusses the advantages of having students act as monitors (tutors).

Martin, John H. The grade school came from Prussia. *Educational Horizons,* 1972, *51,* 28-33.

This article presents excerpts from Martin's book *Free to Learn* (Martin, John H.; and Harrison, Charles H., Prentice Hall, 1972). In the article he criticizes the age-graded system, traces its history back to the breakdown of the one-teacher school, and discusses the advantages of cross-age grouping.

National Education Association. *Multi-age grouping: Enriching the learning environment.* Washington, D.C.: National Education Association, 1968.

This pamphlet discusses the values and advantages of multi-age grouping. It is based on the experiences in classrooms in Montgomery County, Maryland, and includes personal comments from teachers. Cross-age helping relationships and children learning from other children are stressed, although there is no mention of formal tutoring between children.

Rogers, Vincent R. (Ed.) *Teaching in the British primary schools.* London: Macmillan, 1970.

The authors discuss the enriched environment, lack of rigid structure, individualization, new methods of teaching and fostering of creativity in British primary schools. They also consider what is happening in these schools in general. They feel that staff teamwork, cooperation among students, increased interaction, and freedom, all work to make greater individualization of learning possible. A chapter on vertical grouping discusses the organization, implications, and results of this kind of grouping and mentions many ways in which children learn from each other via relationships between older students and younger students.

Smith, Lee L. *Teaching in a nongraded school.* New York: Parker, 1970.

Smith devotes most of this book to specific suggestions, methods, and examples of practices for use in nongraded schools. He stresses the "human" aspects of education and individualization in these schools.

In a section on "utilizing peer teachers," Smith calls the peer teaching experience a "real example of the nongraded philosophy. In these experiences children are learning as they live and work together and become more and more concerned for the 'human' characteristic of their school life!"

Woofter, Thomas J. *Teaching in rural schools.* Boston: Houghton Mifflin, 1917.

This manual for rural teachers, written by a former rural teacher, includes suggestions for organizing the school day, methods, and curriculum. The author suggests using older students as "teacher assistants" to teach younger students.

VII

STUDIES AND DISCUSSIONS OF THE USE OF PEERS IN THERAPY, COUNSELING, AND BEHAVIOR MODIFICATION

Almond, Richard. The therapeutic community. *Scientific American*, 1971, *224*(3), 34-42.

The author discusses the use of peer helping, influence and "role-channeling," and social role-playing in mental institutions and in other settings.

Bailey, Jon S.; Timbers, Gary D.; Phillips, Elery L.; and Wolf, Montrose M. Modification of articulation errors of pre-delinquents by their peers. *Journal of Applied Behavior Analysis*, 1971, *4*, 265-281.

In this study 12- to 15-year-old boys in a home for predelinquents were used as behavior modifiers for boys in the institution who had speech defects. The "tutors" were untrained and used modeling, peer approval, and feedback to correct the errors of the "tutees." It was shown that peers can function successfully as speech therapists without instruction or the presence of adults. The peer therapists were more accurate when they were rewarded for detecting correct behavior than when they were rewarded for detecting incorrect behavior. The authors generalize these results to other situations in which peers may be used to train social interaction skills, for academic tutoring, and in the regular school context.

Behrman, Polly. One plus one equals success. *Journal of Learning Disabilities*, 1973, *6*, 69-70.

This article briefly describes a program in which teenage girls, residents of a treatment center, acted as tutors for little children with learning disabilities. The tutoring was therapeutic for the teenage girls and helped the younger children.

Csapo, Margaret. Peer models reverse the "one bad apple spoils the barrel" theory. *Teaching Exceptional Children*, 1972, 20-24.

Six young children described as "emotionally disturbed--behavior problems" were paired with six "socially mature, reliable, and sensible" peers. The mature peers rewarded the disturbed children for imitation of appropriate behaviors to extinguish inappropriate behaviors (spitting at other kids, throwing things, hitting, etc.). Six other mature peers acted as recorders. After 15 days of student interaction, it was shown that inappropriate behaviors were dramatically reduced.

Drass, Sarah D.; and Jones, Reginald L. Learning disabled children as behavior modifiers. *Journal of Learning Disabilities*, 1971, *4*, 418-425.

Six children in a school for learning-disabled children participated in

this study. Three older students used operant conditioning to modify the study behavior of three younger students. They were successful, and there was evidence that the modified behavior was transferred to the classroom and persisted.

Freeman, Dennis S. Effects of utilizing children with problem behaviors as behavioral modifiers for their peers. Unpublished doctoral dissertation, University of Tennessee, 1970. (See *Dissertation Abstracts International*, 1971, *32*[1-B], 557-558.)

In this study 20 students aged 10 to 13, with chronic classroom behavioral problems were paired. One child in each pair was randomly assigned the role of "therapist." The therapists in the experimental pairs gave social reinforcement to appropriate classroom behavior; control pairs interacted with no particular directions. Observers recorded the children's behavior and found "marked behavioral improvement for all experimental subjects" but insignificant changes in self-esteem and sociometric status. The behavior of the student therapists improved as well.

Kern, Roy; and Kirby, Jonell. Utilizing peer helper influence in group counseling. *Elementary School Guidance and Counseling*, 1971, *6*, 70-75.

The authors studied the effects of peer help on poorly adjusted fifth and sixth graders. Peer helpers were trained in helping behaviors and behavioral change techniques and met in small groups with other students once a week for 9 weeks. A second group met with a professional counselor, and a control group did not receive counseling. A behavior checklist completed by teachers indicated that the students in the peer counseling group made higher gains than the students in the other two groups. (See also Kern, The comparative effectiveness of a peer helper group counseling procedure and counselor oriented group counseling procedure on the adjustment of elementary school children. Unpublished doctoral dissertation, West Virginia University, 1970. *Dissertation Abstracts International*, 1971, *32*[8-A], 3877.)

Riessman, Frank. The "helper" therapy principle. *Social Work*, 1965, *10*(2), 27-31.

Riessman discusses the "peer helping" principle in the contexts of therapy and academic tutoring. He points out the benefits and implications for the helper.

Rose, Sheldon D. *Treating children in groups--a behavioral approach*. London: Jossey-Bass, 1972.

This 15-chapter book on different aspects of behavior modification in children's groups includes discussions of modeling, the use of peers as reinforcers, and role reversal. Rose cites Peggy Lippitt and the idea of cross-age tutoring in two contexts: tutoring as training in which tutors "with authority figure problems" can benefit from taking the role of the teacher in a group--the "novel role of helper"--and tutoring as a leadership training procedure in which children in the therapy group tutor children outside the group, thus assuming a leadership role outside the group and getting out of the "helpee" role.

Solomon, Robert. Peers as behavior modifiers for problem classmates. Unpublished doctoral dissertation, University of Tennessee, 1972. (See *Dissertation Abstracts International*, 1973, *33*[8-A], 4189.)

Using peers as behavior modifiers, the author found "striking decrements in both mean level of problem behaviors and the individual level of problem behavior."

Surratt, Paul R. An elementary student as a behavioral engineer. *Journal of Applied Behavior Analysis*, 1969, *2*, 85-92.

A fifth grader successfully modified the nonstudy behavior of first graders via reinforcement.

Vassos, Sonya T. The utilization of peer influence. *The School Counselor*, 1971, *18*, 209-214.

A professor of Counseling Education outlines a model for using adolescents as "big brothers and sisters" in a counseling relationship with elementary school children. The helper principle is cited as an approach to personalizing the school experience.

Vriend, Thelma J. High-performing inner-city adolescents assist low-performing peers in counseling groups. *Personnel Guidance Journal*, 1969, *47*, 897-904.

The author studied the effects of a demonstration program of peer leadership in counseling and study groups on the academic performance of low-achieving students. High-achieving eleventh graders from a Detroit high school were trained as peer leaders for their low-achieving same-age peers. At the end of the program the low-achieving students were found to have significantly higher gains in academic achievement, grades, and vocational aspirations than a control group. The author discusses the positive peer influence and its use in improving school achievement.

Vriend, Thelma. The peer influence model in counseling. *Educational Technology*, 1969, *9*(3), 50-51.

The author, a guidance counselor, discusses the theoretical basis for the use of peers in school counseling and outlines several models for peer counseling and teaching.

Wagner, Patricia. Analysis of a retarded-tutoring-retarded program for institutionalized residents. Unpublished doctoral dissertation, Columbia University, 1973. (See *Dissertation Abstracts International*, 1973, *34*[5-A], 2426.

In a state school for mentally retarded children, adolescent girls were trained to tutor younger girls in personal self-maintenance skills and then tutored the younger girls for 40 hours. Control groups received extra attention from the staff but were not involved in tutoring. The tutees made significant gains on adaptive behavior tests, while controls did not. The tutors also made greater positive gains in behavior than controls who did not tutor.

Winters, Wilbur A.; and Arent, Ruth. The use of high school students to enrich an elementary guidance and counseling program. *Elementary School Guidance and Counseling*, 1969, *3*, 198-205.

Volunteer high school students in a Denver school were matched with elementary pupils in need of individual guidance and motivation. Response to the program was very positive. Parents of the elementary school girls reported greater improvements in attitude and behavior than the parents of boys. Teachers reported improved attitudes toward peers.

VIII

MANUALS, TUTORING PACKAGES, AND TUTORING MATERIALS

Bradfield, Robert H.; Gray, Burl B.; and Foster, Jean M. Training tutors to teach reading with Performance Determined Instruction. *California Journal of Educational Research*, 1973, *24*(4), 189-194.

The Performance Determined Instruction system, a personalized reading training program, utilizes one-to-two tutoring and a highly structured sequence of reinforced activities. This article describes the results of experiments that used adult and child tutors in the system and presents data that show significant gains in reading for both tutor and tutee.

DeRosier, Cynthia. *You and your charge: A brief handbook for high school tutors working under the Waianae Model Cities tutorial plan*, 1971. (ERIC No. ED 056 011)

This handbook contains guidelines for high school tutors working with young children. It explains how children learn language and the skills they need, describes planning time and materials, and gives general instructions for tutors.

Ebersole, Elbert H. *Programmed tutoring in reading: Pupil team procedures for success in reading*. Pasadena: EberSon Enterprises, 1971.

Ebersole has developed a systematic sequence of programmed procedures for tutoring in reading which may be used by student or adult tutors. The teacher's guide describes the system, the training techniques, and the materials available. Supplementary materials include reading scores of children using the system at the Soto Street School in Los Angeles. The commercial package of materials includes the teacher's guide, instructional materials, and training filmstrips, and is distributed by EberSon Enterprises, P.O. Box 5516, 120 W. Union, Pasadena, Calif. 91107.

Ellson, Douglas G. Programed Tutoring.

Programed Tutoring is a form of individualized instruction supplementing regular classroom work and utilizing paraprofessional tutors. Tutors are primarily adults, although in some cases teenagers and children have tutored. The program was developed by Ellson and others at the University of Indiana over a period of more than 12 years and has been field tested in many schools around the country. Programed Tutoring is a "highly structured procedure which can be carried out effectively by non-professionals with limited educational backgrounds, but it is designed to be maximally sensitive to individual learning characteristics." The method is based on a highly specific and systematic sequence of steps utilizing immediate feedback and stressing success. The program was originally developed to provide supplementary instruction in reading

at the first-grade level but has been expanded to include instruction for second and third graders. A programmed tutorial is being developed for use in kindergarten and first-grade mathematics.

Ellson and his associates have developed a number of sets of tutoring materials that concentrate on comprehension and word analysis skills and are designed to be compatible with the major published reading programs. These materials are available from their respective publishers and are the following: Ginn Tutorial, Harper and Row Tutorial, Macmillan Tutorial, Scott, Foresman Tutorial, Houghton Mifflin Tutorial, and Holt, Rinehart and Winston Tutorial.

The following publications provide descriptions and summaries of evaluations of Programed Tutoring in reading. Additional information and more detailed evaluation reports may be obtained from Dr. Phillip Harris, Associate Director, Programed Tutoring, Department of Psychology, Indiana University, Bloomington, Indiana 47401.

Ellson, Douglas G. *A nation-wide evaluation of programed tutoring.* Bloomington: Indiana University, 1969. This evaluation reports the results of field tests using the Ginn Tutorial kit in 17 schools in 10 states other than Indiana.

Ellson, Douglas G. *The effect of Programed Tutoring in reading on assignment to special education classes: A follow-up of four years of tutoring in the first grade.* Bloomington: Indiana University, 1971. Ellson describes several experimental studies of Programed Tutoring and reports on a series of studies of his own that showed significant gains in reading achievement for tutored students in Indianapolis.

Program conspectus, Programed Tutorial Reading Project. New York: Center for Urban Education. This brief pamphlet describes Ellson's program as operated in Indianapolis Public Schools and reports the results of the evaluation of the 1968-69 school year.

Programed Tutorial Reading Project, Indianapolis, Indiana (it works). Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education, 1969. (ERIC No. ED 028 899) This booklet describes the structure and procedures of the Programed Tutorial Reading Project in Indianapolis and gives a summary of an evaluation of the 1965-66 school year.

(See also Cramer in Section V of this bibliography; Ellson et al., 1965, Section V; Ellson, et al., 1968, Section V; Harris, Section IV; McCleary, Section V; Ronshausen, Section V; and White, Section V.)

Harrison, Grant Von. *The structured tutoring model.* Provo, Utah: Brigham Young University Press, 1971.

Harrison has developed a model for individualized programmed instruction in which upper grade elementary school students tutor younger children, primarily first and second graders, in reading and arithmetic. The model is based on a highly structured set of procedures and uses pre-established instructional objectives, appropriate materials, carefully managed techniques, and continuous assessment of performance. There are several systems; each is designed to accomplish particular objectives,

such as stimulus-response learning, solving equations, computation, and learning to read for nonreaders. Each tutorial system has the following components: diagnostic pretests, record sheets and tutor log, tutor training materials, instructional materials, and posttests. There are also a series of guides and manuals which may be used in a variety of tutorial settings. Harrison offers a series of correspondence courses on Structured Tutoring through the Brigham Young University Department of Home Study (210 HRCB, Provo, Utah 84601). Information on the tutoring system and all materials and publications are available from Brigham Young University Press, Publication Sales, 205 UPB, Provo, Utah 84601. The publications include:

Structured Tutoring. Provo, Utah: Brigham Young University Press, 1971. (ERIC No. ED 053 080)

This outline of the tutoring programs describes their use and provides a bibliography of Harrison publications.

How to organize an intergrade tutoring program in an elementary school. Provo, Utah: Brigham Young University Press, 1971.

This manual for the teacher or other adult who is supervising a cross-age tutoring program for elementary school students provides specific instructions for preparing instructional objectives and materials, selecting and training tutors, monitoring and evaluating the program. Appendices include sample objectives, a tutor training manual, and tutor home-study materials.

Tutor guide for reading. Provo, Utah: Brigham Young University Press, 1971. 2 vols.

These guides are for adult tutors of nonreading preschoolers, primary school children, and older students with reading problems. They include diagnostic tests, exercises, and materials, and give specific procedures for their use.

Tutor guide. Provo, Utah: Brigham Young University Press, 1971. 2 vols.

These guides are for paraprofessional adults who are tutoring low-achieving primary school children. They present techniques for "stimulus response learning" such as using sight words and number names. Specific instructions are given for planning instructional objectives, record keeping, and testing.

Homework Helper Program, New York City, Program Conspectus. New York: Center for Urban Education, 1969. (ERIC No. ED 035 712)

The Homework Helper Program is a cross-age tutorial program in New York City that began in 1963 under the auspices of Mobilization For Youth, Inc. and the New York Board of Education. It was established to encourage disadvantaged high school students to remain in school by providing them with paid jobs in the community, to motivate them to improve their academic achievement, and to provide tutorial services

for younger students. There are over 100 Homework Helper Centers in New York providing services for thousands of students during the summer as well as during the school year. The program was recently decentralized and expanded to provide high school and college tutors for high school students. One of the earliest evaluations of this program was Cloward's article, Studies in Tutoring, cited in Section III of this bibliography. A number of reports and evaluations of this program are available from Dr. Albert R. Deering, Citywide Coordinator, Homework Helper Program, Board of Education, 141 Livingston Street., Brooklyn, New York 11201. Among these reports are the following:

Deering, Albert R. *The Homework Helper tutor manual*. 1966. (ERIC No. ED 012 278)

This training manual for tutors describes the characteristics of students in third through sixth grades and the tutoring methods appropriate for use with these tutees.

An evaluation of the District Nine Homework Helper Program. New York: Fordham University, 1969.

An evaluation of the ESEA Title I Program, Homework Helpers, District 14. New York: Fordham University, 1969.

An evaluation of the ESEA Title I Program, Homework Helpers in Hebrew Day School, District 14. New York: Fordham University, 1970.

An evaluation of the 1971 summer Homework Helper Program. New York: Human Affairs Research Center, 1971.

Final report of the evaluation of the 1969-70 Homework Helper Program. New York: Teaching and Learning Research Corporation, 1970.

High school centers for Homework Helpers. New York City Bureau of Educational Research, 1970.

High school Homework Helper Program, summer 1972. New York: Teaching and Learning Research Corporation, 1972.

Homework Helper Program, New York City, It works. Washington, D.C.: U.S. Office of Education, 1970 (ERIC No. ED 030 614)

Homework Helper Program Tutorial Assistance Center, 1969-70. New York: New York City Bureau of Educational Research, 1970.

Neckritz, Benjamin. *Evaluation report, high school Homework Helper Program, 1970-71*. New York: New York City Bureau of Educational Research, 1971.

Neckritz, Benjamin; and Forlano, George. *Summer Homework Helper Program, 1970*. New York City Bureau of Educational Research, 1970.

Klausmeier, Herbert J.; Jeter, Jan T.; and Nelson, Nancy J. *Tutoring can be fun*. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1972.

This handbook for upper elementary grade pupils offers procedures, methods, suggestions, and practical exercises for use in tutoring younger children. This plan for cross-age tutoring is an integral part of the Wisconsin Research and Development Center's program of Individually Guided Motivation.

Klausmeier, Herbert J.; Jeter, Jan T.; Quilling, Mary R.; and Frayer, Dorothy A. *Individually Guided Motivation*. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1973.

This book presents a comprehensive model for a motivational program along with related theoretical principles and guidelines for implementation. The system for Individually Guided Motivation is implemented through four main components: Individual goal-setting conferences between children and adults, group goal setting conferences between children and adults, individual planning for independent reading, and cross-age tutoring. The tutoring is planned between younger and older elementary school age children; the primary objective is to improve the motivation and achievement of the tutee. Tutoring procedures are based upon focusing attention, modeling, feedback, and reinforcement. Guidelines for selecting and training tutors and managing the tutoring program are discussed.

Laffey, James; and Perkins, Phyllis. *Teacher orientation handbook*. Washington, D.C.: National Reading Center Foundation. (ERIC No. ED 068 460)

This book presents guidelines for the adult tutor participating in a volunteer tutoring program in reading. It includes discussions of the procedures and goals of the program and of the various roles and functions of the classroom teacher.

Lippitt, Peggy; Eiseman, Jeffrey W.; and Lippitt, Ronald. *The Cross-Age Helping Package*. Ann Arbor: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, University of Michigan.

The Cross-Age Helping Package takes advantage of the ability of older children to relate to and provide models for younger children by providing a framework in which the older children help younger ones learn in a one-to-one tutorial relationship. It is designed to benefit the older children also by placing them in a position of responsibility and preparing them for adult helping roles. It is viewed as a human relations training tool as well as a means of providing individualized academic instruction. The program has been field tested in a number of schools and was used in a 3-year Title III program in the Ontario-Montclair (California) School District. The Cross-Age Helping Package includes a book describing the program, its methods, plans, and evaluation; a filmstrip; and materials for staff and tutor training and individual consultation. It is available from Publications Division, Institute for Social Research, University of Michigan, P.O. Box 1248, Ann Arbor, Michigan 48108. (See also Lippitt, 1969; and Lippitt and Lippitt, 1968, in Section I of the bibliography.)

Lundblad, Helen; and Smith, Carl B. *Tutor trainer's handbook.* National Reading Center Foundation, Washington, D.C. (ERIC No. ED 068 459)

This handbook is a guide for the trainer of adult reading tutors. It is divided into 12 units containing discussion questions and evaluation instruments. Discussions of methods, the role of the tutor, lesson plans, assessment, and human relations are included.

Melaragno, Ralph; and Newmark, Gerald. The Tutorial Community Project.

A "tutorial community" was established in 1968 at the Pacoima Elementary School in Los Angeles, a school with a high proportion of Mexican-American pupils. The goal of the program is to broaden and extend the tutorial concept "so that the total climate of learning is changed in such a way as to significantly affect all children at all grade levels." The program involves tutoring by many school-community components, including students, parents, teachers, and paraprofessional volunteers, and is being developed gradually over a 7-year period. The Pacoima program is meant to serve as a prototype model for the total tutorial community, and a number of reports, guides, and evaluations have been produced by the program staff. Information and materials on this program are available from Ralph J. Melaragno, Tutorial Community Project, 12961 Van Nuys Blvd., Pacoima, Calif. 91331. The following are among the publications describing the project and its results:

Harrison, Grant von. *Training students to tutor.* Santa Monica, Calif.: System Development Corporation, 1967. (ERIC No. ED 038 329)

Harrison describes the investigation of tutoring skills and the development of tutor training procedures. A group of upper grade elementary school children were trained by several different methods to tutor first graders with specially prepared materials. It was concluded that the optimal tutor training utilizes demonstration and practice with a minimum of programmed rote learning. Harrison stresses the importance of explaining to tutors the reasons for using the methods taught, such as positive reinforcement. Appendices to this report include a guide for training tutors, study materials, and practice exercises for the tutor.

Melaragno, Ralph J. *Influence of the Tutorial Community Project on reading achievement at Pacoima Elementary School.* Pacoima, Calif.: Tutorial Community Project, 1973.

Melaragno describes the Pacoima tutoring project, discusses the difficulties of evaluation with standardized tests, and presents a summary of results for students in first, second, and third grades. Five years of reading achievement data indicate consistent improvements in test scores for participating students.

Melaragno, Ralph J.; and Newmark, Gerald. *A description and user's guide for a small-scale instructional system.* Santa Monica, Calif.: System Development Corporation, 1968.

The System Development Corporation's instructional system for reading-readiness for first graders is described. Plans for student, teacher, and parent tutoring are outlined. Appendices include tutor trainers' guides and tutor study materials.

Melaragno, Ralph J.; and Newmark, Gerald. *Final report. A pilot study to apply evaluation-revision procedures in first-grade Mexican-American classrooms.* Santa Monica, Calif.: System Development Corporation, 1968.

This report describes background studies for the Tutorial Community Project. These include assessment of student needs, development of instructional procedures, and development of an instructional system using evaluation, revision, and validation of methods and materials.

Melaragno, Ralph J.; and Newmark, Gerald. *A study to develop a tutorial community project in the elementary school.* Santa Monica, Calif.: System Development Corporation, 1969. (ERIC No. ED 030 606)

This report outlines the plan for the Tutorial Community Project and discusses intragrade and intergrade tutoring by students, self-tutoring, and tutoring by parents, teachers, and volunteers. Expected outcomes and an evaluation design are described.

National Commission on Resources for Youth, Inc. Youth Tutoring Youth Program.

Youth Tutoring Youth is a cross-age tutoring program which has been implemented in several hundred cities across the country and administered through community action programs, Neighborhood Youth Corps, and other social agencies. The procedures were developed by the National Commission on Resources for Youth (NCRY) program under the auspices of the U.S. Department of Labor Manpower Administration. The program is aimed at improving the motivation and self-esteem of inner-city adolescents and increasing their language skills by training them to tutor younger children. The emphasis is on developing positive personal relationships between tutor and tutee; older students assume the responsibility for developing materials and plans for the tutoring lessons. A series of manuals, guides, films, and an evaluation report are available from NCRY, 36 West 44th Street, New York, New York 10036. These publications and reports include:

Administrator's memo: Youth Tutoring Youth. New York: National Commission on Resources for Youth, 1968. (ERIC No. ED 026 340)

This manual for administrators describes several tutoring programs in large cities and offers guidelines for organizing and administering a tutoring program based on the Youth Tutoring Youth model.

For the Tutor, 1970.

This booklet is a collection of techniques, ideas, activities, and games contributed by tutors and tutees in Youth Tutoring Youth programs.

A Manual for trainers, 1970.

This book presents detailed plans for tutor training in a series of workshops. It includes directions for role-playing and constructing teaching materials.

Supervisor's manual, 1968. (ERIC No. ED 028 992)

This manual provides the supervisor of a tutoring program with a description of the Youth Tutoring Youth model and specific directions for setting up a program, dealing with problems, and involving the community. There are seven resource chapters describing materials, role-playing techniques, tutor training and remediation, testing and evaluation, and sources of supplementary information and materials.

Tutoring tricks and tips, 1970.

This illustrated booklet for the tutor provides assorted ideas and suggestions for activities with tutees.

You're the tutor, 1970. (ERIC No. ED 034 246)

This third manual for tutors illustrates and describes activities in reading, writing, and practical skills adapted from a variety of sources.

Youth Tutoring Youth: Final report, 1969. (ERIC No. ED 034 246)

This report describes a demonstration project with 14- and 15-year-old underachievers in Philadelphia, Pa., and Newark, N.J. This project served as a model for many other programs in other cities.

The Youth Tutoring Youth Model for in school Neighborhood Youth Corps, an evaluation, 1972.

This evaluation report was prepared for the NCRY by investigators at the University of Chicago and New Careers, Inc. The evaluators studied a sample of several hundred tutors and tutees in Youth Tutoring Youth programs in Chicago and Washington, D.C. They present data for one year on measures of attendance, self-esteem, reading and mathematics achievement, maturity, efficacy, and other factors. Generally, tutors showed improved language skills, self-image, and interest in school, while tutees showed improved reading interest and skills, self-confidence, and behavior. The report includes a manual for evaluating tutors and tutees that provides a number of instruments and instructions for scoring and analysis.

Niedermeyer, Fred C.; and Ellis, Patricia A. *The SWRL Tutorial Program.* Inglewood, Calif.: Southwest Regional Laboratory for Educational Research and Development, 1970.

As part of the First-Year Communications Skills Reading Program, the Southwest Regional Laboratory (SWRL) has developed a program utilizing upper elementary school students to tutor kindergartners. The primary purpose of the program is to supplement regular classroom instruction; the tutor monitors practice and reinforces the learning obtained in the classroom. The program also utilizes a Parent-Assisted Learning Program in which parents monitor their children's practice at home. Another tutoring program, Language and Concept Skills for Spanish Speakers, uses fifth- and sixth-grade tutors to assist kindergarten and first-grade Spanish-speaking children in English instruction; the tutors use puppets, games, and planned lessons. Materials for these

programs are available from Division of Resource Services, Southwest Regional Laboratory, 11300 La Cienega Blvd., Inglewood, Calif. 90304. A progress report describing the SWRL Tutorial Program and its development and evaluation is available from ERIC (Niedermeyer, Fred C. and Ellis, Patricia. *The Development of a tutorial program for kindergarten reading instruction.* Inglewood, Calif.: Southwest Regional Laboratory, 1970. ERIC No. ED 057 994.)

Ontario-Montclair School District. *A cross-age teaching resource manual.* Ontario, Calif.: Ontario-Montclair School District, 1971.

This manual is a complete guide for establishing and managing a cross-age tutoring program in the elementary school. It is based on the experiences of the Ontario-Montclair (California) School District in a three-year Title III program utilizing some aspects of the Lippitt Cross-Age Helping Program with elementary and junior high school students. The manual includes descriptions of the cross-age teaching concept and program activities; guidelines for training tutors; sections on program preparation, operation, evaluation, and costs; and a bibliography of related publications. Also included are a summary and brief discussion of the results of an evaluation of the Ontario-Montclair program. This manual and further information are available from John Mainiero, Program Coordinator, Ontario-Montclair School District, 950 West D Street, Ontario, Calif. 91764.

Rosenbaum, P. S. *Peer-mediated instruction.* New York: Teachers' College Press, 1973.

Peer-mediated instruction (P.M.I.) is a programmed "instructional management system" developed by Rosenbaum for use in several different situations. This book includes guidelines for the system's use in the classroom and a brief discussion of learning on the part of the tutor.

Tutorial Assistance Center.

The Tutorial Assistance Center was a program used by the United States National Student Association during the 1960's. Its purposes were to promote community tutorial programs using children, teenagers, and nonprofessionals as tutors and to develop and distribute tutoring materials. Although the center is no longer operating, a number of its publications are still available from the National Student Association, 2115 S Street, N.W., Washington, D.C. 20008. The informational booklets and guides for tutoring, which were published by the Tutorial Assistance Center in Washington, D.C. (except as noted below) include:

Chesler, Mark. *Tutorials: A strategy for educational reform.* (TAC #3001) New York: Northern Student Movement.

This booklet deals with the problems of educating the disadvantaged child in the standard school system, the role of the tutor and the type of person needed to fill that role, and the components of a successful tutorial program.

Dickson, Pam. *Orientation--goals and techniques.* (TAC #1006)

The author discusses the importance of tutor orientation and the topics to be covered during orientation, such as goals, role of the tutor, methods, dealing with school systems, etc. A bibliography of relevant films is included.

Isgar, Hazel. *Reading inventory, devices, puzzles and exercises.* (TAC #4007-4009)

This booklet offers brief guidelines for diagnosing tutees' reading abilities, a basic word list, and examples of reading exercises, puzzles, and other activities to guide the tutor in creating his own materials.

Kirsch, Beth. *Tutor orientation--a new in-depth approach.* October 1966. (TAC #2007)

This account of a tutor training program in which high school and college students tutored younger children during the summer in North Carolina includes guidelines for the first orientation session, suggestions for discussion, and methods for continuing inservice training.

Noce, James S. *Research and evaluation in tutorial programs.* March 1967. (TAC #1009)

Noce discusses the lack of and need for evaluation of tutorial programs. He presents suggested evaluation instruments, some research findings on tutoring, sample evaluation forms, and a bibliography.

North Carolina Advancement School Tutoring Staff. *The junior tutoring manual.* 1971. (TAC #2000)

This manual presents general suggestions for eighth-grade tutors working with fourth- and fifth-grade tutees.

Shapiro, Lynn. *Tutoring reading.* 1969. (TAC #0006)

This guide for tutoring children in reading includes suggested activities and methods for evaluating the children's needs.

Tutor manual. 1967. (TAC #2010)

This manual discusses reasons for tutoring and offers guidelines for elementary and secondary school students on what to teach. A bibliography of tutoring aids and materials is included.

UCLA Tutorial Project. *How to start a tutorial project.* December 1964. (TAC #1003)

The staff of a California tutoring project offers general advice on starting, running, and evaluating a college tutorial project for elementary and secondary school students.

University of Michigan Tutorial and Cultural Relations Project. *Tutor handbook*. (TAC #2004)

In this project, college students tutor "culturally separated" children. This handbook describes the purposes of the program, gives suggestions for tutoring, and includes a bibliography of relevant materials.

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